

FORM PTO-1390 (Modified)
(REV 11-2000)

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE

ATTORNEY'S DOCKET NUMBER

TRANSMITTAL LETTER TO THE UNITED STATES
DESIGNATED/ELECTED OFFICE (DO/EO/US)
CONCERNING A FILING UNDER 35 U.S.C. 371

211391US6PCT

U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR

09/926007

INTERNATIONAL APPLICATION NO.
PCT/JP00/08609INTERNATIONAL FILING DATE
05 DECEMBER 2000PRIORITY DATE CLAIMED
14 DECEMBER 1999 (earliest)

TITLE OF INVENTION

REGISTRATION METHOD AND APPARATUS, INFORMATION PROCESSING METHOD AND APPARATUS,
FURNISHING METHOD AND APPARATUS AND PROGRAM STORAGE MEDIUM

APPLICANT(S) FOR DO/EO/US

Mitsuhiro NISHIBE, et al.

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☒ This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (24) indicated below.
4. ☐ The US has been elected by the expiration of 19 months from the priority date (Article 31).
5. ☒ A copy of the International Application as filed (35 U.S.C. 371 (c) (2))
 - a. ☐ is attached hereto (required only if not communicated by the International Bureau).
 - b. ☒ has been communicated by the International Bureau.
 - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☒ An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).
 - a. ☒ is attached hereto.
 - b. ☐ has been previously submitted under 35 U.S.C. 154(d)(4).
7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371 (c)(3))
 - a. ☐ are attached hereto (required only if not communicated by the International Bureau).
 - b. ☐ have been communicated by the International Bureau.
 - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
 - d. ☒ have not been made and will not be made.
8. ☒ An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☐ An oath or declaration of the inventor(s) (35 U.S.C. 371 (c)(4)).
10. ☐ An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371 (c)(5)).
11. ☐ A copy of the International Preliminary Examination Report (PCT/IPEA/409).
12. ☒ A copy of the International Search Report (PCT/ISA/210).

Items 13 to 20 below concern document(s) or information included:

13. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
14. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
15. ☐ A **FIRST** preliminary amendment.
16. ☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.
17. ☐ A substitute specification.
18. ☐ A change of power of attorney and/or address letter.
19. ☐ A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821 - 1.825.
20. ☐ A second copy of the published international application under 35 U.S.C. 154(d)(4).
21. ☐ A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).
22. ☐ Certificate of Mailing by Express Mail
23. ☒ Other items or information:

Request for Consideration of Documents in International Search Report
 Notice of Priority / PCT/IB/304 / PCT/IB/308 / Drawings (30 sheets)
 Amended Sheets (75, 76, 77, 78, 79 80, 81/1, 81/2, 81/3, 81/4 and 81/5)

| | | | | | |
|---|--|--|--|---|--|
| U.S. APPLICATION NO. (IF KNOWN, SEE 37 CFR 1.101) 09/926007 | | INTERNATIONAL APPLICATION NO. PCT/JP00/08609 | | ATTORNEY'S DOCKET NUMBER 211391US6PCT | |
|---|--|--|--|---|--|

24. The following fees are submitted:

| | | | | | |
|--|--------------|--------------|-----------|--|---------------|
| BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5)) : <input type="checkbox"/> Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO \$1000.00 <input checked="" type="checkbox"/> International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO \$860.00 <input type="checkbox"/> International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO \$710.00 <input type="checkbox"/> International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4) \$690.00 <input type="checkbox"/> International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4) \$100.00 ENTER APPROPRIATE BASIC FEE AMOUNT = | | | | CALCULATIONS PTO USE ONLY | |
| | | | | \$860.00 | |
| Surcharge of \$130.00 for furnishing the oath or declaration later than <input checked="" type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492 (e)). | | | | \$130.00 | |
| CLAIMS | NUMBER FILED | NUMBER EXTRA | RATE | | |
| Total claims | 18 - 20 = | 0 | x \$18.00 | \$0.00 | |
| Independent claims | 12 - 3 = | 9 | x \$80.00 | \$720.00 | |
| Multiple Dependent Claims (check if applicable). | | | | <input type="checkbox"/> | \$0.00 |
| TOTAL OF ABOVE CALCULATIONS = | | | | \$1,710.00 | |
| <input type="checkbox"/> Applicant claims small entity status. (See 37 CFR 1.27). The fees indicated above are reduced by 1/2. | | | | \$0.00 | |
| SUBTOTAL = | | | | \$1,710.00 | |
| Processing fee of \$130.00 for furnishing the English translation later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492 (f)). | | | | \$0.00 | |
| TOTAL NATIONAL FEE = | | | | \$1,710.00 | |
| Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31) (check if applicable). | | | | <input type="checkbox"/> \$0.00 | |
| TOTAL FEES ENCLOSED = | | | | \$1,710.00 | |
| | | | | Amount to be: | \$ |
| | | | | refunded | \$ |
| | | | | charged | \$ |

a. ☒ A check in the amount of **\$1,710.00** to cover the above fees is enclosed.


b. ☐ Please charge my Deposit Account No. _____ in the amount of _____ to cover the above fees. A duplicate copy of this sheet is enclosed.

c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. **15-0030** A duplicate copy of this sheet is enclosed.


d. ☐ Fees are to be charged to a credit card. **WARNING:** Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:


22850

 (703) 413-3000


WILLIAM E. BEAUMONT
 SIGNATURE
REGISTRATION NUMBER 30,996
Gregory J. Maier
 NAME
25, 599
 REGISTRATION NUMBER
August 13, 2001
 DATE

30/p81/s

09/926007
518 Rec'd PCT/PTO 13 AUG 2001

1

DESCRIPTION

Registration Method and Apparatus, Information Processing Method and Apparatus,
Furnishing Method and Apparatus and Program Storage Medium

Technical Field

This invention relates to a registration method and apparatus, an information processing method and apparatus, a furnishing method and apparatus and a program storage medium and, more particularly, to a registration method and apparatus and a program storage medium for registering data pertinent to users, and to an information processing method and apparatus, a furnishing method and apparatus and a program storage medium for furnishing data for downloading contents or data specifying the location of a contents furnishing device. More particularly, the present invention relates to a method and apparatus and a program storage medium for furnishing a key.

Background Art

When receiving contents as data such as music from a predetermined server over a network, a user transmits to a registration server data pertinent to the user, such as name or an E-mail address, prior to reception of contents, for registration of the transmitted data pertinent to the user.

When the registration is finished, the registration server transmits a key necessary for authentication processing to an information processing apparatus of the

user.

In such registration, the user has to select a registration form or a server furnishing the contents, in meeting with the language or an apparatus used, which means a laborious operation.

On the other hand, the server has to execute two operations of registering a user and issuing a key, thus imposing significant processing load to render expeditious processing difficult.

Moreover, since the location of the registration server is obvious, illicit aggression is liable to occur, with the result that processing load for dealing with the aggression tends to be increased.

Disclosure of the Invention

It is therefore an object of the present invention to provide a registration method and apparatus, an information processing method and apparatus, a furnishing method and apparatus and a program storage medium whereby a user is able to input own data more readily, connection can be made after registration to a server furnishing the contents more suited to attributes such as the language to be used by the user, and a key can be issued more safely and promptly.

In one aspect, the present invention provides a registration apparatus including first recording means for recording second data for displaying a picture for inputting first data specifying a user for registration, in association with attributes relevant to the

user, first receiving means for receiving, from an information processing device used by the user, a transmission request for transmission of the second data, along with third data specifying the information processing device and the attributes, selection means for selecting the second data recorded in the recording means, based on the attributes received by the first receiving means, transmission means for transmitting the second data selected by the selection means to the information processing device, second receiving means for receiving the first data which specifies the user and which has been input from the information processing device based on the second data, and second recording means for recording the first data in association with the third data specifying the information processing device used by the user.

The first receiving means preferably receives the information indicating the language as the attribute. The first receiving means preferably receives the information indicating a terminal device used by being connected to the information processing device as the attribute.

In a second aspect, the present invention provides a registration method including a first recording step of recording second data for displaying a picture for inputting first data specifying a user for registration, in association with attributes relevant to the user, a first receiving step of receiving, from an information processing device used by the user, a transmission request for transmission of the second data, along with third data specifying the information processing device and the attributes, a selection step of selecting the second data recorded in the recording step, based on

the attributes received by the first receiving step, a transmission step of transmitting the second data selected by the selection step to the information processing device, a second receiving step of receiving the first data which specifies the user and which has been input from the information processing device based on the second data and a second recording step of recording the first data in association with the third data specifying the information processing device used by the user.

In a third aspect, the present invention provides a program storage medium having stored therein a computer-readable program, which program includes a first receiving step of receiving, from an information processing device used by the user, a transmission request for transmission of third data, along with first data specifying the information processing device used by a user and attributes relevant to the user, the third data demonstrating a picture for inputting second data specifying the user, a selection step of selecting the third data recorded in the first recording step, based on the attributes received by the first receiving step, a transmission step of transmitting the third data selected by the selection step to the information processing device, a second receiving step of receiving the second data which specifies the user and which has been input from the information processing device based on the third data, and a second recording step of recording the second data in association with the first data specifying the information processing device used by the user.

In the registration apparatus of the first aspect and in the registration method for the second aspect, second data for demonstrating a picture for inputting first data for

specifying a user is recorded, a request for transmitting selected second data is received from the information processing device along with the third data specifying the information processing device used by the user and attributes, the recorded second data is selected based on the received attributes, recorded second data is selected based on the received attributes, selected second data is transmitted to the information processing device, the first data which has been input based on the second data and which specifies the user is received from the information processing device, and first data is recorded in association with the third data specifying the information processing device used by the user. So, the user is able to input the data relevant to itself more readily.

In the program storage medium in the third aspect of the present invention, the request for transmitting third data for demonstrating a picture for inputting second data specifying a user is received from the information processing device used by the user, along with the first data specifying the information processing device and attributes relevant to the user. The third data recorded in association with the attribute is selected based on the received attributes. The third data so selected is transmitted to the information processing device. From this information processing device, second data specifying the user and which has been input based on the third data is received. The second data is recorded in association with the first data specifying the information processing device and attributes relevant to the user. So, the user is able to input the data relevant to itself more readily.

In a fourth aspect of the present invention, there is provided an information processing apparatus including acquisition means for acquiring data specifying the location of a registration device, transmission means for transmitting attributes relevant to the user to a first furnishing device on completion of registration of a user in the registration device, receiving means for receiving data indicating the location of a second furnishing device corresponding to the attributes relevant to the user from the first furnishing device, and communication means for requesting registration of the user to the registration device, based on data acquired by the acquisition means and which specify the location of a registration device. The communication means also communicates with the second furnishing device based on data acquired by the receiving means and which specify the location of the second furnishing device.

The transmission means preferably transmits the information specifying the language as the attribute. The transmission means preferably transmits the information used on coupling to itself.

In a fifth aspect of the present invention, there is provided an information processing method including an acquisition step of acquiring data specifying the location of a registration device, a transmission step of transmitting attributes relevant to the user to first furnishing device on completion of registration of a user in the registration device, a receiving step of receiving data indicating the location of a second furnishing device corresponding to the attributes relevant to the user from the first furnishing device, and a communication step of requesting registration of the user

to the registration device, based on data acquired by the acquisition means and which specify the location of a registration device. The communication step also communicates with the second furnishing device based on data acquired by the receiving step and which specify the location of the second furnishing device.

In a sixth aspect of the present invention, there is provided a program storage medium having stored therein a computer-readable program, which program includes an acquisition step of acquiring data specifying the location of a registration device, a transmission step of transmitting attributes relevant to the user to first furnishing device on completion of registration of a user in the registration device, a receiving step of receiving data indicating the location of a second furnishing device corresponding to the attributes relevant to the user from the first furnishing device, and a communication step of requesting registration of the user to the registration device, based on data acquired by the acquisition means and which specify the location of a registration device, the communication step also communicating with the second furnishing device based on data acquired by the receiving step and which specify the location of the second furnishing device.

In a seventh aspect, the present invention provides a furnishing apparatus including recording means for recording data specifying the location of a contents furnishing device furnishing the contents in association with attributes relevant to a user of the information processing device, receiving means for receiving the attributes relevant to a user from the information processing device, selecting means for selecting

the data indicating the location of the contents furnishing device which is recorded in the recording means and which indicates the location of the contents furnishing device, based on the attributes received in the receiving step, and transmission means for transmitting to the information processing device the data which indicates the location of the contents furnishing device furnishing the contents and which is selected by the selection means.

Preferably, the first receiving means receives the information indicating the language as the attribute. Preferably, the first receiving means receives the information indicating a terminal device used by being connected to the information processing device as the attribute.

In an eighth aspect of the present invention, there is provided a furnishing method including a recording step of recording data specifying the location of a contents furnishing device furnishing the contents in association with attributes relevant to a user of the information processing device, a receiving step of receiving the attributes relevant to a user from the information processing device, a selecting step of selecting the data indicating the location of the contents furnishing device which is recorded in the recording step and which indicates the location of the contents furnishing device, based on the attributes received in the receiving step, and a transmission step of transmitting to the information processing device the data which indicates the location of the contents furnishing device furnishing the contents and which is selected in the selection step.

In a ninth aspect of the present invention, there is provided a program storage medium having stored therein a computer-readable program, which program includes an acquisition step of acquiring attributes relevant to a user and which has been furnished from an information processing device, a selection step of selecting data indicating the location of the contents furnishing device pre-recorded in association with the attributes of the information processing device relevant to the user, based on the attributes obtained in the acquisition step, and a transmission step of transmitting to the information processing device the data which indicates the location of the contents furnishing device furnishing the contents and which is selected in the selection step.

In the information processing apparatus, information processing method and in the program of the program storage medium, according to the fourth, fifth and sixth aspects of the present invention, respectively, data indicating the location of the registration device is acquired and, when the user registration in the registration apparatus is finished, the attributes relevant to the user is received. A request is made for registering the user in the registration device, based on the data indicating the location of the registration device, so acquired, whilst communication may be had with the second furnishing device based on the data specifying the location of the second furnishing device. So, after registration, it is possible to establish the connection with the second furnishing device suited to the user attributes more readily.

In the furnishing apparatus and in the furnishing method in the seventh and

0926007.092401
T04250.0092650
eighth aspects of the present invention, data indicating the locations of the content furnishing apparatus is recorded in association with the attributes relevant to the user of the information processing device and the attributes relevant to the user are received from the information processing device. Based on the received attributes, the recorded data indicating the location of the content furnishing device is selected and the so-selected data specifying the location of the content furnishing device is transmitted to the information processing device. So, after registration, it is possible to establish the connection with the second furnishing device suited to the user attributes more readily.

In a ninth aspect of the present invention, there is provided a program for the program storage medium in which the attributes relevant to a user supplied from the information processing device are acquired, data indicating the location of the content furnishing device and which is pre-recorded in association with the attributes relevant to the user of the information processing device is selected based on the so-acquired attributes, and data indicating the location of the content furnishing device is transmitted to the information processing device. So, after registration, it is possible to establish the connection with the second furnishing device suited to the user attributes more readily.

In a tenth aspect of the present invention, there is provided a furnishing apparatus including first receiving means for receiving from a first information processing device, along with first data specifying the first information processing device and second data indicating a program in need of a key, a request for

transmission of the key, requesting means for requesting decision as to whether or not the first information processing device has been registered, second receiving means for receiving from the second information processing device the results of decision as to whether or not the first information processing device has been registered, key generating means for generating the key associated with the program on receipt of the result of decision that the first information processing device has been registered, and transmission means for transmitting the generated key to the first information processing device.

In an eleventh aspect of the present invention, there is provided a furnishing method including a first receiving step of receiving from a first information processing device, along with first data specifying the first information processing device and second data indicating a program in need of a key, a request for transmission of the key, a requesting step of requesting decision as to whether or not the first information processing device has been registered, a second receiving step of receiving from the second information processing device the results of decision as to whether or not the first information processing device has been registered, a key generating step of generating the key associated with the program on receipt of the result of decision that the first information processing device has been registered and a transmission step of transmitting the generated key to the first information processing device.

In a twelfth aspect of the present invention, there is provided a program storage

medium having stored therein a computer-readable program, which program includes a first receiving step of receiving from a first information processing device, along with first data specifying the first information processing device and second data indicating a program in need of a key, a request for transmission of the key, a requesting step of requesting decision as to whether or not the first information processing device has been registered, a second receiving step of receiving from the second information processing device the results of decision as to whether or not the first information processing device has been registered, a key generating step of generating the key associated with the program on receipt of the result of decision that the first information processing device has been registered and a transmission step of transmitting the generated key to the first information processing device.

In the furnishing device and method in the tenth and eleventh aspects of the present invention and in the program storage medium in the twelfth aspect of the present invention, a key transmission request is received from the first information processing device, along with the first data specifying the first data and the second data specifying the program in need of the key, and the second information processing device is requested to check whether or not the first registration device has been registered. If the result of check to the effect that the first registration device has been registered is received, a key corresponding to the program is generated and the key so-generated is transmitted to the first information processing device. So, it is possible to issue the key more promptly and safely.

Brief Description of the Drawings

Fig.1 shows an embodiment of a music data management system according to the present invention.

Fig.2 illustrates the structure of a personal computer.

Fig.3 illustrates the structure of an EMD registration server.

Fig.4 is a block diagram for illustrating the structure of the functions of the personal computer.

Fig.5 illustrates an ID or a key saved in association with each program.

Fig.6 shows a window in which a display operation command program is to be displayed on a display.

Fig.7 shows, in a tabulated form, the relation of correspondence between an application program ID and a registration form.

Fig.8 illustrates a typical registration form.

Fig.9 illustrates a typical registration form.

Fig.10 shows typical examples of MGID, CD key, profile data of a registered user, and APID_{OMG}, registered by the EMD registration server.

Fig.11 is a block diagram showing the structure of functions of the personal computer 1.

Fig.12 illustrates an ID or a key saved in association with each program.

Fig.13 illustrates a typical registration form.

Fig.14 illustrates an ID or a key saved in association with each program.

Fig.15 shows, in a tabulated form, the relation of correspondence between URL and APID_{OMG} pre-recorded by a key server.

Fig.16 illustrates schematics of the processing for rewriting the URL.

Fig.17 illustrates schematics of the processing for installing a key.

Fig.18 is a block diagram for illustrating the structure of a function of the personal computer.

Fig.19 illustrates the ID or the key saved in association with each program.

Fig.20 illustrates a typical registration form.

Fig.21 is a block diagram for illustrating the structure of a function of the personal computer.

Fig.22 illustrates the ID or the key saved in association with each program.

Fig.23 illustrates the ID or the key saved in association with each program.

Fig.24 is a flowchart for illustrating the processing for downloading a key.

Fig.25 is a flowchart for illustrating the processing for downloading a key.

Fig.26 is a flowchart for illustrating the processing for downloading a key.

Fig.27 is a flowchart for illustrating the processing for downloading a key.

Fig.28 is a flowchart for illustrating the processing for downloading a key.

Fig.29 is a flowchart for illustrating details in the processing for key downloading.

Fig.30 is a flowchart for illustrating details in the processing for key downloading.

Best Mode for Carrying out the Invention

Fig.1 shows an embodiment of a music data management system according to the present invention. A personal computer 1 is connected to a network 2 comprised of the Local Area Network or the Internet. The personal computer 1 converts music data received from an EMD (Electrical Music Distribution) servers 4-1 to 4-4 or read out from the Compact Disc (CD), referred to below as contents, into a pre-set compression form, such as ATRAC3 (trade mark) using a pre-set key, while encrypting the music data in accordance with the description (Data Encryption Standard) and recording the encrypted data.

A program executed by the personal computer 1 for constituting the music data management system according to the present invention is installed from a CD-ROM (CD Read-Only Memory) furnished in association with portable device (PD) 7-1 or 7-2, such as so-called bundled CD-ROM furnished with the portable device 7-1 in purchasing the portable device 7-1, or is downloaded and installed from an installer server 6 over the network 2.

The program recorded in a CD-ROM furnished in association with the portable device 7-1 has a different program portion from the program recorded in a CD-ROM furnished in association with portable device (PD) 7-1.

When installing a program recorded on a CD-ROM furnished in association with the portable device 7-1, the program for installing the program on the personal computer 1 (installing program as later explained) records the URL (Uniform Resource

Locator) for accessing the EMD registration server 3, in a pre-set file, such as a registry.

When installing the program recorded on a CD-ROM furnished in association with the portable device 7-2, the program for installing the program on the personal computer 1 records the URL for accessing the EMD registration server 3 in a pre-set file, such as a registry.

In the music data management system, the key for authenticating a device driver of the portable device 7-1 is read out from the CD-ROM, furnished in association with the portable device 7-1, so as to be recorded on the personal computer 1. In the music data management system, the key for authenticating a device driver of the portable device 7-2 is read out from the CD-ROM, furnished in association with the portable device 7-2, so as to be recorded on the personal computer 1.

For example, a user using only the portable device 7-1 in the music data management system according to the present invention, and who has purchased the portable device 7-2, is able to utilize both the portable device 7-1 and the portable device 7-2, if the or she installs the program associated with the portable device 7-2 from the CD-ROM furnished in association with the portable device 7-2.

The program executed by the personal computer 1 for constituting the music data management system will be explained in detail subsequently.

The personal computer 1 records using condition data specifying using conditions of the contents in association with the contents recorded encrypted. The

using condition data indicate e.g., that the contents associated with the using condition data can be utilized or copied simultaneously on three portable devices, namely the portable devices 7-1 and 7-2 and another portable device, not shown, or moved to another personal computer.

The personal computer 1 causes the contents, recorded encrypted, to be stored in the portable device 7-1, connected in circuit, while causing the using condition data corresponding to the stored contents to be updated responsive to the storage in the portable device 7-1. This operation is referred to below as check-out. The personal computer 1 also causes the contents, recorded encrypted, to be stored in the portable device 7-2, connected in circuit, while causing the using condition data corresponding to the stored contents to be updated responsive to the storage in the portable device 7-2.

Moreover, the personal computer 1 causes the contents stored in the portable device 7-1 connected in circuit to be erased by the portable device 7-1, while causing the using condition data corresponding to the erased contents to be updated. This operation is referred to below as check-in. The personal computer 1 also causes the contents stored in the portable device 7-2 connected in circuit to be erased by the portable device 7-2, while causing the using condition data corresponding to the erased contents to be updated.

When the user of the personal computer 1 starts to acquire contents from the EMD servers 4-1 to 4-4, the personal computer 1 transmits to the EMD registration

server 3 data proper to the program installed on the personal computer 1 (inherent data different from the data of the same program of the other personal computer) and data indicating the portable device coped with by the program installed on the personal computer 1, for example, the portable device 7-1 or 7-2, and the language used in a nation of sale of the portable device coped with by the program.

Based on the data, received from the personal computer 1, indicating the portable device coped with by the program installed on the personal computer 1, and the language used in a nation of sale of the portable device coped with by the program, the EMD registration server 3 transmits to the personal computer 1 data for displaying a picture for inputting the name or the E-mail address of the user of the personal computer 1, referred to below as the user profile, associated with the portable device and the language. This data is what is called data for displaying the registration form.

The personal computer 1 receives data for displaying the registration form, associated with the portable device and the language, to display the registration form.

When the pre-set data, such as the name or the E-mail address of the user, is set on the registration form, the personal computer 1 transmits profile data of the user as set in the registration form to the EMD registration server 3.

On receipt of data of the user profile from the personal computer 1, the EMD registration server 3 records the data proper to the program installed on the personal computer 1 in association with the user profile data in a user database.

The installer server 6 transmits to the personal computer 1 a program for

downloading a key from the key server 5 to the personal computer 1 (a key installing program as later explained). This key is to be used in a processing of authenticating the program for downloading the contents from the EMD servers 4-1 to 4-4. On receipt of the key installing program from the installer server 6, the personal computer 1 installs the key installing program in itself.

If the user profile has been registered in a user database 8, the key server 5 is responsive to a request from the personal computer 1 to cause a key database 9 to generate a key necessary for downloading the contents from the EMD servers 4-1 to 4-4 to transmit the generated key to the personal computer 1. The personal computer 1 receives the key necessary for downloading the contents from the EMD servers 4-1 to 4-4 to save the received key.

The EMD server 4-1 is responsive to the request from the personal computer 1 to furnish the contents to the personal computer 1 over the network 2. The EMD server 4-2 is responsive to the request from the personal computer 1 to furnish the contents to the personal computer 1 over the network 2. The EMD server 4-3 is responsive to the request from the personal computer 1 to furnish the contents to the personal computer 1 over the network 2. The EMD server 4-4 is responsive to the request from the personal computer 1 to furnish the contents to the personal computer 1 over the network 2.

The contents furnished by each of the EMD servers 4-1 to 4-4 have been compressed in accordance with the same or different compression system(s). The

contents furnished by each of the EMD servers 4-1 to 4-4 have been encrypted in accordance with the same or different encryption system(s).

The portable device 7-1 stores the contents furnished from the personal computer 1, that is the checked-out contents. The portable device 7-1 reproduces the stored contents to output the reproduced contents to e.g., a headphone, not shown. The user may dismount the portable device 7-1, having the contents stored therein, from the personal computer 1, carry it about and reproduce the stored contents to hear the music corresponding to the contents over e.g., a headphone.

The portable device 7-2 memorizes the contents furnished from the picture printing system 1. The portable device 7-2 reproduces the contents stored therein to output the reproduced contents to a headphone, not shown. The user is able to dismount the portable device 7-2, having the contents stored therein, from the personal computer 1, carry it about and reproduce the contents stored therein to hear the music corresponding to the contents over e.g., a headphone.

Fig.2 illustrates the structure of the personal computer 1. A CPU (central processing unit) 11 actually executes a variety of application programs or operating systems (OS). The application programs will be explained in detail subsequently. A ROM (read-only memory) 12 usually memorizes basically fixed data, among data of the programs used by the CPU 11 and parameters for processing operations. A RAM (random access memory) 13 memorizes the programs used in executing the CPU 11 and parameters incidentally changed in the program execution. These are

interconnected over a host bus 14 made up e.g., of a CPU bus.

The host bus 14 is connected through a bridge 15 to an external bus 16, such as a PCI (peripheral component interconnect/interface).

A keyboard 18 is acted upon by the user inputting variable commands to the CPU 11. A mouse 19 is acted on by the user commanding or selecting a point on the screen of the display 20. The display 20 is made up e.g., of a liquid crystal display or a CRT (cathode ray tube) and represents the variable information in text or images. A HDD (hard disc drive) 21 drives a hard disc to record and/or reproduce the program executed by the CPU or the information on or from the hard disc.

A driver 22 reads out data or the program memorized in a magnetic disc 41, an optical disc 42, inclusive of a CD-ROM, a major surface 43 or a semiconductor memory 44, loaded thereon, to route the data or the program through an interface 17, an external bus 16, a bridge 15 and a host bus 14 to a RAM 13 connected in circuit.

To a USB (universal serial bus) port 23-1 is connected the portable device 7-1 over a pre-set cable, not shown. The USB port 23-1 outputs to the portable device 7-1 data furnished from the HDD 21, CPU 11 or the RAM 13 through the interface 17, external bus 16, bridge 15 or the host bus 14, such as data inclusive of contents or commands of the portable device 7-1.

To the USB port 23-2 is connected the portable device 7-2 over a pre-set cable, not shown. The USB port 23-2 outputs to the portable device 7-1 data furnished from the HDD 21, CPU 11 or the RAM 13 through the interface 17, external bus 16, bridge

15 and the host bus 14, such as data inclusive of contents or commands of the portable device 7-2.

A loudspeaker 24 outputs the pre-set speech, corresponding to the contents, based on the data or audio signals supplied from the interface 17.

The components from the keyboard 18 to the loudspeaker 24 are connected to the interface 17, which is connected through the interface 17, external bus 16, bridge 15 and the host bus 14 to the CPU 11.

A communication unit 25, connected to the network 2, stores data furnished from the CPU 11 or the HDD 21, such as registration request, key request or content transmission request, in a packet of a pre-set system, to transmit the packetized data over the network 2, while outputting data stored in the received packet, such as key or contents, to the CPU 11, RAM 13 or to the HDD 21, over the network 2.

The communication unit 25 is connected to the CPU 11 through the external bus 16, bridge 15 and the host bus 14.

Fig.3 shows the structure of the EMD registration server 3. A CPU 61 actually executes the application programs, such as the web server program, or the OS. A ROM 62 usually memorizes basically fixed data, among data of the programs used by the CPU 61 and parameters for processing operations. A RAM 63 memorizes the programs used in executing the CPU 61 and parameters incidentally changed in the program execution. These are interconnected over a host bus 64 made up e.g., of a CPU bus.

The host bus 64 is connected through a bridge 65 to an external bus 66, such as a PCI bus.

A keyboard 68 is acted upon by the user inputting variable commands to the CPU 61. A mouse 69 is acted on by the user commanding or selecting a point on the screen of a display 70. The display 70 is made up e.g., of a liquid crystal display or a CRT (cathode ray tube) and demonstrates the variable information in text or images. A HDD (hard disc drive) 71 drives a hard disc to record and/or reproduce the program executed by the CPU or the information on or from the hard disc.

In Fig.1, the user database 8 and the EMD registration server 3 are shown to be different items. However, if the EMD registration server 3 owns the user database 8 in its inside, the user profile stored in the user database 8 is recorded in the HDD.

A driver 72 reads out data or the program memorized in a magnetic disc 91, an optical disc 92, a magneto-optical disc 93 or a semiconductor memory 94, loaded thereon, to route the data or the program through an interface 67, an external bus 66, a bridge 65 and a host bus 64 to the RAM 63 connected in circuit.

The components from the keyboard 68 to the driver 72 are connected to the interface 67, which is connected through the interface 67, external bus 66, bridge 65 and the host bus 64 to the CPU 61.

A communication unit 73, connected to the network 2, outputs data stored in a received packet, such as data required for registration, as later explained, or an ID (identifier) of a pre-set program, to the CPU 61, RAM 63 or to the HDD 71, over the

network 2, while transmitting data from the CPU 61 or the HDD 71 over the network, as the data are stored in a packet of a pre-set system.

The communication unit 73 is connected to the CPU 61 through the external bus 66, bridge 65 and the host bus 64.

The structures of the EMD servers 4-1 to 4-4, key server 5 and the installer server 6 are the same as the structure of the EMD registration server 3 and hence are not explained specifically. There are occasions where key data stored in the key database 9 are recorded on a hard disc of the key server 5.

The functions realized by the personal computer 1 executing the pre-set program are hereinafter explained.

Fig.4 shows a block diagram for illustrating the structure of the functions of the personal computer 1 when the program is installed from a CD-ROM which is an optical disc 42 furnished in association with the portable device 7-1.

An installing program 110 is read out from a CD-ROM and executed to read out a content management program 111, a display operation command program 112, a recording program 113, a content database 114 and a device driver 116-1, from the CD-ROM, which is an optical disc 42 furnished in association with the portable device 7-1, to install the read-out items in the personal computer 1.

The content management program 111 is made up of plural programs, namely an EMD selection program 131, a check-in/check-out management program 132, an encryption system conversion program 133, a compression system conversion program

134, an encryption program 135, a using condition conversion program 136, a signature management program 137, an authentication program 138, a decoding program 139, and a driver for PD 140.

The content management program 111 is stated with shuffled or encrypted instructions and constructed to hide the processing contents from outside to render the reading of the processing contents difficult, in such a manner that, if the user directly reads out the content management program 111, the instructions cannot be identified.

The EMD selection program 131 selects connection to one of the EMD servers 4-1 to 4-4 to cause a purchasing application program 115-1 or 115-2 as later explained to execute communication with one of the EMD servers 4-1 to 4-4, for example, content downloading in purchasing contents.

Based on the setting of check-in or check-out, and on using condition files 162 -1 to 162-N recorded in the content database 114, the check-in/check-out management program 132 checks out contents stored in content files 161-1 to 161-N to one of the portable device 7-1 and the portable device 7-2 or checks-in the contents stored in the portable device 7-1 or 7-2.

Depending on the check-in or check-out processing, the check-in/check-out management program 132 updates using condition data stored in the using condition files 162 -1 to 162-N recorded in the content data base 114.

The encryption system conversion program 133 converts the encryption system for contents received by the purchasing application program 115-1 from the EMD

server 4-1, the encryption system of contents received by the purchasing application program 115-1 from the EMD server 4-2, the encryption system for contents received by the purchasing application program 115-2 from the EMD server 4-3 and the encryption system of contents received by the purchasing application program 115-2 from the EMD server 4-4, over the network 2, into an encryption system which is the same as that of the contents stored in the content files 161-1 to 161-N recorded on the content data base 114.

Also, in checking out the contents to the portable device 7-1 or 7-2, the encryption system conversion program 133 converts the encryption system of contents to be checked-out into that usable by the portable device 7-1 or 7-2.

The compression system conversion program 134, converts the compression system of contents received by the purchasing application program 115-1 from the EMD server 4-1, the compression system of contents received by the purchasing application program 115-1 from the EMD server 4-2, the compression system of contents received by the purchasing application program 115-2 from the EMD server 4-3, the compression system of contents received by the purchasing application program 115-2 from the EMD server 4-4, over the network 4, into a compression system which is the same as that of the contents stored in the content files 161-1 to 161-N recorded by the content data base 114.

The compression system conversion program 134, is read from e.g., a CD and encodes the non-compressed contents from the recording program 113 in accordance

with the same encoding system as that for the contents stored in the content files 161-1 to 161-N recorded in the content data base 114.

Also, when checking out the contents to the portable device 7-1 or 7-2, the compression system conversion program 134, converts the contents to be checked-out into a compression system usable by the portable device 7-1 or 7-2.

The encryption program 135 is read out from e.g., a CD, and encrypts the non-encrypted contents from the recording program 113 in accordance with the same encryption system as that for the contents stored in the content files 161-1 to 161-N recorded in the content data base 114.

The using condition conversion program 136 converts data indicating using conditions of contents received by the purchasing application program 115-1 from the EMD server 4-1, that is a so-called usage rule, data indicating using conditions of contents received by the purchasing application program 115-1 from the EMD server 4-2, data indicating using conditions of contents received by the purchasing application program 115-2 from the EMD server 4-3, or data indicating using conditions of contents received by the purchasing application program 115-2 from the EMD server 4-4, into data of the same format as that of the using condition data stored in the using condition files 162 -1 to 162-N recorded in the content data base 114.

Moreover, in checking out the contents to the portable device 7-1 or 7-2, the using condition conversion program 136 converts the using condition data corresponding to the contents to be checked out into using condition data usable by the

portable device 7-1 or 7-2.

Before executing the check-in or check-out processing, the signature management program 137 detects falsification of the using condition data based on the signature contained in the using condition data stored in the using condition files 162 -1 to 162-N recorded on the content data base 114. The signature management program 137 is responsive to the updating of the using condition data stored in the using condition files 162 -1 to 162-N recorded in the content data base 114 to update the signature contained in the using condition data.

The authentication program 138 executes the processing of reciprocal authentication between the content management program 111 and the purchasing application program 115-1 and that between the content management program 111 and the purchasing application program 115-2.

The decoding program 139 decodes the contents when the personal computer 1 reproduces the contents (encrypted contents) stored in the content files 161-1 to 161-N recorded in the content data base 114.

When checking out pre-set contents to the portable device 7-1 or checking in pre-set contents from the portable device 7-1, the driver for PD 140 furnishes to the device driver 116-1 contents or a command for causing the device driver 116-1 to execute pre-set processing.

When checking out pre-set contents to the portable device 7-2 or checking in pre-set contents from the portable device 7-2, the driver for PD 140 furnishes to the

device driver 116-2 contents or a command for causing the device driver 116-2 to execute pre-set processing.

Using a filtering data file 181, a display data file 182, picture files 183-1 to 183-K or a hysteresis data file 184, the display operation command program 112 causes a picture of a pre-set window to be demonstrated in a display 20. By actuating a keyboard 18 or a mouse 19, the display operation command program 112 commands execution of the processing such as check-in or check-out to the content management program 111.

The filtering data file 181, having stored therein data for weighting respective contents stored in the content files 161-1 to 161-N recorded in the content data base 114, is recorded on the HDD 21.

The display data file 182, having stored therein data corresponding to respective contents stored in the content files 161-1 to 161-N recorded in the content data base 114, is recorded on the HDD 21.

The picture files 183-1 to 183-K, having stored therein data corresponding to respective contents stored in the content files 161-1 to 161-N recorded in the content data base 114, are recorded on the HDD 21.

If there is no necessity for distinguishing the picture files 183-1 to 183-K from one another, they are simply referred to as picture files 183.

The hysteresis data file 184, having stored therein hysteresis data, such as the number of check-out and check-in of contents stored in the content files 161-1 to 161-

N recorded in the content data base 114, is recorded on the HDD 21.

The recording program 113 causes a picture of a pre-set window to be displayed, while causing data such as recording time of contents from a CD as an optical disc 42 loaded on the drive 22 to be read out, based on the actuation of the keyboard 18 or the mouse 19.

Based on e.g., recording time of contents recorded on the CD, the recording program 113 requests a WWW server, not shown, to send data corresponding to the CD, such as album names or artist names, or data corresponding to contents recorded on the CD, such as names of the musical numbers, over the network 2, while receiving data corresponding to the contents recorded on the CD.

The recording program 113 furnishes to the display operation command program 112 received data corresponding to the CD or data corresponding to contents recorded on the CD.

When fed with a recording command, the recording program 113 reads out contents from the CD which is the optical disc 42 loaded on the drive 22 to output the read-out contents to the content management program 111.

The content data base 114 stores the contents from the content management program 111, compressed and encrypted in accordance with a pre-set system, to any one of the content files 161-1 to 161-N, by way of recording in the HDD 21. The content data base 114 stores the using condition data corresponding to the contents stored in the content files 161-1 to 161-N in any of the using condition files 162 -1 to

162-N corresponding to the content files 161-1 to 161-N, having the contents stored therein, by way of recording in the HDD 21.

It is also possible for the content data base 114 to store the content files 161-1 to 161-N or the using condition files 162 -1 to 162-N as records.

For example, the using condition data corresponding to the contents stored in the content file 161-1 are stored in the using condition file 162-1. The using condition data corresponding to the contents stored in the content file 161-N are stored in the using condition file 162 -N.

If there is no necessity for distinguishing the content files 161-1 to 161-N from one another, they are simply referred to as contents files 161. If there is no necessity for distinguishing the using condition files 162 -1 to 162-N from one another, they are simply referred to as using condition files 162.

A WWW (World Wide Web) browser 117 accesses the EMD registration server 3; over the network 2, based on the URL recorded in a pre-set file, such as a registry, by an installing program 110 to cause a registration form to be displayed, based on the data furnished from the EMD registration server 3, to transmit data of the user profile set on the registration form to the EMD registration server 3.

The WWW browser 117 is not necessarily installed from a CD-ROM furnished in association with the portable device 7-1 or 7-2. For example, the WWW browser 117 may be installed on the personal computer 1, when installing the operating system to the personal computer 1, along with the operating system.

An ID (identification) or a key (authentication key or an encryption key) saved in association with each program when installing a program from a CD-ROM which is an optical disc 42 furnished in association with the portable device 7-1 is now explained with reference to Fig.5.

The CD key is a 20-digit decimal number furnished along with the CD-ROM in association with the portable device 7-1 or the CD-ROM. The CD key is requested to be input before the program is installed by the installing program 110 from the CD-ROM to the personal computer 1. The CD key, input by the user, is stored in a pre-set file recorded on the HDD 21.

When the CD key is input, the installing program 110 reads out a predetermined key set from a key bundle pre-recorded in the CD-ROM to store the read-out key set in a predetermined file recorded in the HDD 21 of the personal computer 1. It is noted that 200,000 key sets are stored in the CD-ROM.

The key set includes MGID as an ID of the content management program 111, a master key MGMK used for authentication processing with the device driver 116-1, a personal key MGIK used for authentication processing with the device driver 116-1, and a storage key Rip-SK used for authentication processing with the content data base 114.

The personal key MGIK may also be generated by the installing program 110 or the content management program 111 by applying a pre-set hash function to the linking of the MFIK and the MGMK. Similarly, the storage key Rip-SK may also be

generated by the installing program 110 or the content management program 111 based on the MGID.

If the content management program 111 is installed twice or more, the Latest MGID, which is ID of the last saved content management program 111, is of the same value as the MGID when the program executed by the personal computer 1 for constituting the music data management system is initially installed. That is, when the program is installed from the CD-ROM as the optical disc 42 furnished in association with the portable device 7-1, the Latest MGID is of the same value as the MGID, because the program is not installed from the CD-ROM associated with other portable devices.

The application program ID of the content management program 111, that is $APID_{OMG}$, is made up of codes specifying the types, nation, destination or language of the content management program 111, the bundled portable device 7-1, and so forth.

The application program ID of the recording program 113, that is $APID_{REC}$, is made up of codes specifying the types, nation, destination or language of the recording program 113, the bundled portable device 7-1, and so forth.

The application program ID of the display operation command program 112, that is $APID_{JB}$, is made up of codes specifying the types, nation, destination or language of the display operation command program 112, the bundled portable device 7-1, and so forth.

The structure of the application program ID is hereinafter explained. The

application program ID is made up of three-digit decimal number indicating the application type code, three-digit decimal number for the codes of the nation and the destination, three-digit decimal number for the language codes, two-digit decimal number maker codes, one digit decimal number product type code, four-digit decimal number for the bundled product code and a software version code with an unspecified number of digits.

The application type code specifies one of the programs of the content management program 111, display operation command program 112, recording program 113, content data base 114, purchasing application program 115-1, purchasing application program 115-2 and the device driver 116-1.

For example, an application type code, corresponding to the content management program 111, is 001, an application type code, corresponding to the purchasing application program 115-1, is 002 and an application type code, corresponding to the purchasing application program 115-2, is 003.

The nation and the destination codes indicate the nation of sale or distribution of the CD-ROM and the nation of sale of the portable device bundled with the CD-ROM.

For example, if the nation of sale or distribution of the CD-ROM is the United States of America (USA), the nation or destination code is 001, whereas, if the nation of sale or distribution of the CD-ROM is Japan, the nation or destination code is 081.

The language code indicates the language mainly used in a territory of sale or

distribution of the CD-ROM, or in a territory of sale of the portable device bundled with the CD-ROM.

For example, if English is mainly used in the territory of sale or distribution of the CD-ROM, the language code is 008, whereas, if Japanese is mainly used in the territory of sale or distribution of the CD-ROM, the language code is 0019.

The maker code denotes a supplier of the CD-ROM. The product type code indicates that the program is furnished without being bundled with the portable device, that the program is furnished without being bundled with the portable device, or that the program is for demonstration purposes.

The bundled product code indicates an equipment bundled with the program, such as a portable device 7-1 or 7-2. However, if the bundled product code is "0000", the program which references to the program ID discounts the bundled product code.

The software version code in an optional number of digits indicates the program version.

The application program ID is recorded on a pre-set file in the HDD 21 along with the data indicating whether or not a key required in content downloading from one of the EMD servers 4-1 to 4-4 has been installed.

For example, directly after the content management program 111 has been installed, a key required in downloading the contents from one of the EMD servers 4-1 to 4-4 is not installed in the application program ID corresponding to the content management program 111. So, the program ID is associated with "false" indicating

that the key required in downloading the contents from one of the EMD servers 4-1 to 4-4 is not installed.

After executing the processing of installing a key as later explained, the application program ID associated with the content management program 111 is associated with "true" indicating that the key required in downloading the contents from one of the EMD servers 4-1 to 4-4 has been installed.

The path of the file in which is recorded the application program ID is recorded in another pre-set file, such as a registry.

When the program is installed from the CD-ROM which is the optical disc 42 furnished in association with the portable device 7-1, the personal computer 1 installs a MGID specifying the content management program 111, while recording the key for authentication of the device driver 116-1 of the portable device 7-1.

The personal computer 1 also records the application program ID associated with the program installed in the personal computer 1.

Fig.6 shows a window the display operation command program 112 demonstrates on the display 20. In the window demonstrated by the display operation command program 112, there is arranged a button 301 for booting the WWW browser 117.

When installing the program from the CD-ROM which is the optical disc 42 furnished in association with the portable device 7-1, the WWW browser 117 is also booted from a shortcut icon, not shown, which the installing program 110 generates on

a desktop.

When booted by a button 301 or by double-clicking a shortcut icon, the WWW browser 117, accesses the EMD registration server 3, over the network 2, based on the URL recorded in a pre-set file, such as a registry, by the installing program 110, to demonstrate the registration form furnished by the EMD registration server 3. When accessing the EMD registration server 3, the WWW browser 117 transmits the CD key, MGID, Latest MGID and $APID_{OMG}$ to the EMD registration server 3.

For example, the WWW browser 117 sends the CD key, MGID, Latest MGID and $APID_{OMG}$ as an argument of URL to the EMD registration server 3.

In this case, the WWW browser 117 can set URL to [http://regist.openmg.com/server/reg?mbid = xxxx&cdkey = yyyy&latestmgid = zzzz&apid = uuuu](http://regist.openmg.com/server/reg?mbid=xxxx&cdkey=yyyy&latestmgid=zzzz&apid=uuuu). It is noted that xxxx, yyyy, zzzz and uuuu denote the values of MGID, the CD key, Latest MGID and $APID_{OMG}$, respectively.

The EMD registration server 3 pre-records the table of correspondence between the application program ID and the registration form at the outset, as shown in Fig.7. So, based on the received $APID_{OMG}$, the EMD registration server 3 selects data for displaying a pre-set registration form, and transmits data for demonstrating the selected registration form to the personal computer 1.

For example, if the language code of $APID_{OMG}$ corresponds to Japanese, the EMD registration server 3 transmits data for demonstrating the registration form shown in Fig.8 to the personal computer 1.

If the language code of $APID_{OMG}$ corresponds to English, and the bundle product code corresponds to the portable device 7-1, the EMD registration server 3 transmits data for demonstrating the registration form shown in Fig.9 to the personal computer 1.

In this manner, the EMD registration server 3 is able to transmit to the personal computer 1 the data for demonstrating the registration form corresponding to the language code stored in the received $APID_{OMG}$ or to the bundled product code.

If, based on the registration form, data on the user profile, such as name or E-mail address, of the user of the personal computer 1, the personal computer 1 transmits the user profile data to the EMD registration server 3.

The EMD registration server 3 causes the user database 8 to retrieve the combination of the pre-recorded MGID and the CD key, which is coincident with the combination of the MGID and the CD key, received from the personal computer 1, to record the user profile data and the $APID_{OMG}$ received from the personal computer 1.

The EMD registration server 3 is able to verify whether or not the user owning the combination of the MGID and the CD key, based on whether or not the user profile data and the $APID_{OMG}$ have been recorded in the user database 8 in association with the combination of the MGID and the CD key.

After recording the user profile data and the $APID_{OMG}$ on the user database 8, the EMD registration server 3 causes the WWW browser 117 of the personal computer 1 to access the installer server 6.

The installer server 6 causes the WWW browser 117 of the personal computer 1 of the personal computer 1 to download the purchasing application program 115-1 and a key installing program 118-1 associated with the EMD servers 4-1 and 4-2 to install the purchasing application program 115-1 and a key installing program 118-1 downloaded on the personal computer 1, as shown in Fig.11.

When the purchasing application program 115-1 has been installed, the application ID corresponding to the purchasing application program 115-1, referred to below as APID, is saved in a pre-set file of the HDD 21, as shown in Fig.12.

On booting the key installing program 118-1, the key installing program 118-1 accesses the key server 5, over the network 2, based on the URL previously stored by the key installing program 118-1.

Since "false" indicating that the key necessary for downloading the contents has not been downloaded is associated with the $APID_{OMG}$ and $APID_{PL1}$, the key installing program 118-1 transmits to the key server 5 the $APID_{OMG}$ as the application ID corresponding to the content management program 111, and the $APID_{PL1}$, as the application ID corresponding to the purchasing application program 115-1, along with the MGID and the CD key.

37.

Based on the received MGID and CD key, the key server 5 checks whether or not the user of the personal computer 1 has been registered, by the EMD registration server 3. If it is verified that the user of the personal computer 1 has been registered,

the key server 5 causes the key database 9 to generate a key necessary for reciprocal authentication of the purchasing application program 115-1 and the content management program 111 and a key for supervising the contents downloaded from the EMD servers 4-1 to 4-2 to transmit the generated key to the key installing program 118-1.

Based on the $APID_{OMG}$ as the application ID corresponding to the MGID and the content management program 111 and $APID_{PL1}$ as the application ID corresponding to the purchasing application program 115-1, the key database 9 generates inherent keys (keys having values different from those of the other keys) associated with the $APID_{OMG}$ as the application ID corresponding to the MGID and the content management program 111 and $APID_{PL1}$ as the application ID corresponding to the purchasing application program 115-1.

If it is verified that the user of the personal computer 1 has not been registered, the key server 5 transmits data for demonstrating the registration form shown in Fig.13 to the personal computer 1.

If the user profile is input based on the registration form shown in Fig.13, the processing is terminated.

If the user profile is input based on the registration form, and the user profile data is transmitted to the key server 5, the key server 5 causes the EMD registration server 3 to register the user profile, while causing the key database 9 to generate the key necessary for reciprocal authentication of the purchasing application program 115-

1 and the content management program 111 and the key for supervising the contents downloaded from the EMD servers 4-1 to 4-2 to transmit the generated keys to the key installing program 118-1.

The key installing program 118-1 records the key necessary for reciprocal authentication of the purchasing application program 115-1 and the content management program 111 and the key for supervising the contents downloaded from the EMD servers 4-1 to 4-2.

When the key downloaded from the key server 5 is recorded, the key installing program 118-1 associates $APID_{OMG}$ and $APID_{PL1}$ with "true" indicating that the key necessary for installing the contents have been installed.

Meanwhile, the key necessary for reciprocal authentication of the purchasing application program 115-1 and the content management program 111 and the key for supervising the contents downloaded from the EMD servers 4-1 to 4-2 are stored in a pre-set certificate along with the signature.

Fig.14 illustrates the key necessary for reciprocal authentication of the purchasing application program 115-1 and the content management program 111, received from the key server 5 and recorded, and the key for supervising the contents downloaded from the EMD servers 4-1 to 4-2.

The public key for authenticating the application for purchase Cert-PK1-1 is a key used by the content management program 111 in the processing for authenticating the purchasing application program 115-1. The secret key for authenticating the

application for purchase Cert-SK1-1 is a key used by the content management program 111 in the processing for authenticating the purchasing application program 115-1.

In employing the key which is based on an elliptical curve cipher, an element P of a point p on an elliptical curve $EC(p)$ is generated, and the public key for authenticating the application for purchase Cert-PK1-1 as well as the secret key for authenticating the application for purchase Cert-SK1-1 are found.

The EMD content management key EMD-SK1 is a key for supervising the contents downloaded from the EMD servers 4-1 to 4-2. Of course, the key for managing the contents downloaded from the EMD server 4-1 may be distinct from the key for managing the contents downloaded from the EMD server 4-2.

The public key for authenticating the application for purchase Cert-PK2-1 is a key used by the purchasing application program 115-1 in the processing in authenticating the content management program 111. The secret key for authenticating the content management program Cert-SK2-1 is a key used by the purchasing application program 115-1 in the processing for authenticating the content management program 111.

The key used in reciprocal authentication of the purchasing application program 115-1 and the content management program 111 and the key for managing the contents downloaded from the EMD servers 4-1 to 4-2 are inherent keys associated with the purchasing application program 115-1 and the content management program 111 supplied from the key server 5.

After receiving the key used in reciprocal authentication of the purchasing application program 115-1 and the content management program 111, and the key for supervising the contents downloaded from the EMD servers 4-1 to 4-2, the key installing program 118-1 transmits to the key server 5 the MGID and the $APID_{OMG}$ as the application ID corresponding to the content management program 111.

The key server 5 retrieves the pre-recorded table, based on the received $APID_{OMG}$, to transmit the corresponding URL to the key installing program 118-1. The previously stored table shown in Fig.15 records the pre-set URL in association with the language code and the bundled product code of $APID_{OMG}$.

For example, if the language code of $APID_{OMG}$ corresponds to Japanese, and the bundled product code corresponds to the portable device 7-1, the key server 5 transmits the URL associated with the EMD server, such as the EMD server 4-1, demonstrating the page described in Japanese, to the personal computer 1.

If the language code corresponds to English, and the bundled product code corresponds to the portable device 7-1, the key server 5 transmits the URL associated with the EMD server, such as the EMD server 4-2, for demonstrating the page described in English, to the personal computer 1.

Moreover, if, for example, the language code of $APID_{OMG}$ corresponds to Japanese, and the bundled product code corresponds to the portable device 7-2, the key server 5 transmits the URL associated with the EMD server, such as the EMD server 4-3, demonstrating the page described in Japanese, to the personal computer 1.

If the language code corresponds to English, and the bundled product code corresponds to the portable device 7-2, the key server 5 transmits the URL associated with the EMD server, such as the EMD server 4-4, for demonstrating the page described in English, to the personal computer 1.

On receipt of the URL from the key server 5, the key installing program 118-1 records the URL in a pre-set file, such as a registry.

When subsequently the button 301 is clicked, the WWW browser 117 accesses one of the EMD servers 4-1 to 4-4, adapted to the portable device 7-1 or 7-2 and to the language of the user, based on the URL supplied to the key server 5.

The schematics of the processing for rewriting the URL, as a reference of accessing of the WWW browser 117, are explained with reference to Fig.16.

The installing program 110 first sets the URL associated with the EMD registration server 3. When booted, the WWW browser 117 accesses the EMD registration server 3 based on the so-set URL.

Since the APID is delivered to the EMD registration server 3, as an argument of URL, the EMD registration server 3 is able to furnish data of the registration form, corresponding to the language of the user of the portable device and to the type of the portable device, such as one of the portable devices 7-1 and 7-2.

After the end of the processing for registration, the WWW browser 117 accesses the installer server 6, based on the URL, not recorded in the registry, furnished to the EMD registration server 3, and downloads the key installing program 118 to install the

key installing program 118 on the personal computer 1.

After the end of the processing for key downloading, the key installing program 118 sends the APID to the key server 5. Since the APID is associated with the type of the portable device, such as the portable device 7-1 or 7-2, and with the language of the portable device user, the key server 5 is able to furnish the URL associated with one of the EMD servers 4-1 to 4-4, corresponding to the portable device type and the language of the user, to the key installing program 118, which key installing program rewrites the URL, recorded on the registry, to the URL associated with one of the EMD servers 4-1 to 4-4.

The WWW browser 117, booted subsequently, accesses one of the EMD servers 4-1 to 4-4, adapted to the portable device type and the language of the user, based on the URL associated with one of the EMD servers 4-1 to 4-4.

In this manner, the user is able to access one of the EMD servers 4-1 to 4-4, adapted to the language of the user and to the portable device 7-1 or 7-2, without doing laborious operations, such as URL setting.

The schematics of the key installing processing is explained with reference to Fig.17. When the CD key is input, the installing program 110 reads out a key set, made up of the MGID, as an ID of the content management program 111, master key MGMK, a personal key MGIK and the storage key Rip-SK, from the key bundle pre-recorded in the CD-ROM, based on the CD key, to record the read-out key set in a pre-set file of the HDD 21 of the personal computer 1, along with the CD key. When

installing for the first time, the installing program 110 sets a value of the MGID in the Latest MGI, which is the final management program ID. When installing for the second time etc., the installing program 110 updates the Latest MGID as the last management program.

When installing for the second time etc., the installing program 110 does not update the MGID or the CD key, recorded in the personal computer 1.

When installing for the second time etc., the installing program 110 updates the application program ID of the content management program 111, that is the $APID_{OMG}$.

The key installing program 118, downloaded by the WWW browser 117 from the installer server 6 and installed, transmits the CD key, MGID and the APID to the key server 5, while receiving the public key for authenticating the application for purchase Cert-PK1-1, the secret key for authenticating the application for purchase Cert-SK1-1, EMD contents management key EMD-SK, public key for authenticating the application for purchase Cert-PK2-1 and the secret key for authenticating the content management program Cert-SK2-1 from the key server 5.

In this manner, the personal computer 1 is able to acquire a inherent key used for reciprocal authentication of the purchasing application program 115-1 and the content management program 111 and a inherent key for management of the contents downloaded from the EMD servers 4-1 to 4-4.

Since the key installing program 118 is stored in the inside and is invisible from outside, it is possible with the URL of the key server 5 to prevent illicit acquisition of

the key used for reciprocal authentication of the purchasing application program 115-1 and the content management program 111 or the key for management of the contents downloaded from the EMD servers 4-1 to 4-4.

Fig.18 is a block diagram for illustrating the structure of the function of the personal computer 1 when the program is installed, from the state explained above with reference to Figs.11 and 14, from the CD-ROM which is the optical disc 42 furnished in association with the portable device 7-2.

The installing program 110 reads out the content management program 111 and the device driver 116-2 from the CD-ROM which is the optical disc 42 furnished in association with the portable device 7-2 to install the program and the driver on the personal computer 1. The content management program 111 is overwritten.

The installing program 110 associates the $APID_{OMG}$, as an application ID associated with the content management program 111, with "false" indicating that the key necessary for downloading the program has not been installed.

When fed with the CD key, having a value different from the CD key installed from the CD-ROM, which is the optical disc 42 furnished in association with; the portable device 7-1, the installing program 110 reads out a predetermined key set from the key bundle previously recorded on the CD-ROM, to store the read-out key set in a predetermined file recorded on the HDD 21 of the personal computer 1.

The MGID, which is the ID of the content management program 111 included in the key set, is set in the Latest MGID. The CD key, MGID, master key MGMK,

personal key MGIK, storage key Rip-SK, public key for authenticating the application for purchase Cert-PK1-1, secret key for authenticating the application for purchase Cert-SK1-1, EMD contents management key EMD-SK1, public key for authenticating the application for purchase Cert-PK2-1 or the secret key for authenticating the content management program Cert-SK2-1, already recorded, is not updated.

The master key VMCMK, used for authentication processing of the device driver 116-2, and which is included in the key set, is added to the predetermined file.

When booted on double-clicking the button 301 or the shortcut icon, the WWW browser 117 accesses the EMD registration server 3 to display the registration form furnished by the EMD registration server 3, based on the URL recorded on a pre-set file, such as a registry, over the network 2, by the installing program 110, to cause the registration form supplied by the EMD registration server 3 to be demonstrated. When accessing the EMD registration server 3, the WWW browser 117 transmits the CD key, MGID, Latest MGID and $APID_{OMG}$ to the EMD registration server 3.

For example, the WWW browser 117 transmits the CD key, MGID, Latest MGID and $APID_{OMG}$, as an argument of the URL, to the EMD registration server 3.

For example, if the language code of the $APID_{OMG}$ is associated with English and the bundled product code is associated with the portable device 7-2, the EMD registration server 3 transmits data demonstrated on the registration form shown in Fig.20 to the personal computer 1. It is noted that the registration form shown in Fig.20 differs from that shown in Fig.9.

If fed with data of the profile of the user of the personal computer 1, such as name or E-mail address, based on the registration form shown in Fig.20, the personal computer 1 transmits the user profile to the EMD registration server 3.

After recording the user profile data and the $APID_{OMG}$, the EMD registration server 3 causes the WWW browser 117 of the personal computer 1 to access the installer server 6. Referring to Fig.21, the installer server 6 causes the WWW browser 117 of the personal computer 1 to download the purchasing application program 115-2 and the key installing program 118-2, associated with the EMD servers 4-3 and 4-4, respectively, over the network 2, to install the downloaded purchasing application program 115-2 and the key installing program 118-2 on the personal computer 1.

When the purchasing application program 115-2 has been installed, the $APID_{PL2}$, as an application ID associated with the purchasing application program 115-2, is saved in a pre-set file of the HDD 21. The $APID_{PL2}$ is associated with "false" indicating that the key necessary for downloading the contents has not been installed.

When then booted, the key installing program 118-2 accesses the key server 5, over the network 2, based on the URL previously stored in the key installing program 118-2.

Since the $APID_{OMG}$ and the $APID_{PL2}$ are associated with "false" indicating that the key necessary for downloading the contents has not been installed, the key installing program 118-2 transmits to the key server 5 the $APID_{OMG}$, as an application ID associated with the content management program 111, and the $APID_{PL2}$, as an

application ID associated with the purchasing application program 115-2, along with the MGID and the CD key.

If, as a result of checking whether or not the user of the personal computer 1 has been registered, based on the received MGID and the CD key, it is verified that the user of the personal computer 1 has not been registered, the key server 5 requests the key database 9 to generate a key necessary for reciprocal authentication of the purchasing application program 115-2 and the content management program 111 and a key for managing the contents downloaded from the EMD servers 4-3 and 4-4.

Based on the MGID, $APID_{OMG}$, as an application ID associated with the content management program 111, and the $APID_{PL2}$, as an application ID associated with the purchasing application program 115-2, the key database 9 generates inherent keys associated with MGID, $APID_{OMG}$, as an application ID associated with the content management program 111, and the $APID_{PL2}$, as an application ID associated with the purchasing application program 115-2. It is noted that the inherent key differs from that for the $APID_{PL2}$.

The key server 5 transmits the generated key to the key installing program 118-2.

The key installing program 118-2 records the key necessary for reciprocal authentication of the purchasing application program 115-2 and the content management program 111, and the key for managing the contents downloaded from the EMD servers 4-3 and 4-4, received from the key server 5, in a pre-set file of the

HDD 21.

Meanwhile, the key necessary for reciprocal authentication of the purchasing application program 115-2 and the content management program 111, and the key for managing the contents downloaded from the EMD servers 4-3 and 4-4, are transmitted as these keys are stored with a signature in a predetermined certificate.

Fig.23 illustrates the key necessary for reciprocal authentication of the purchasing application program 115-2 and the content management program 111, and the key for managing the contents downloaded from the EMD servers 4-3 and 4-4.

The public key for authenticating the application for purchase Cert-PK1-2 is used by the content management program 111 in the processing of authenticating the purchasing application program 115-2. The secret key for authenticating the application for purchase Cert-SK1-2 is used by the content management program 111 in the processing of authenticating the purchasing application program 115-2.

The EMD contents management key EMD-SK2 is used for supervising the contents downloaded from the EMD servers 4-3 and 4-4. Of course, the key for managing the contents downloaded from the EMD server 4-3 may be distinct from the key for managing the contents downloaded from the EMD server 4-4.

The public key for authenticating the application for purchase Cert-PK2-2 is a key used by the purchasing application program 115-2 in the processing in authenticating the content management program 111. The secret key for authenticating the content management program Cert-SK2-2 is a key used by the purchasing

application program 115-2 in the processing for authenticating the content management program 111.

The key used in reciprocal authentication of the purchasing application program 115-2 and the content management program 111 and the key for managing the contents downloaded from the EMD servers 4-3 to 4-4 are inherent keys associated with the purchasing application program 115-2 and the content management program 111 supplied from the key server 5.

If, in the following, the purchasing application program 115-1 need not be distinguished from the purchasing application program 115-2, these are simply termed purchasing application programs 115. If the key installing program 118-1 need not be distinguished from the key installing program 118-2, these are simply termed key installing programs 118.

Referring to the flowcharts shown in Figs.24 to 28, the processing for key downloading is explained. At step S11, when the CD-ROM, which is the optical disc 42 furnished in association with the portable device 7 is loaded on the drive 22, the personal computer 1 boots the installing program 110 recorded on the CD-ROM. At step S12, the installing program 110 causes a picture for inputting the CD key to be demonstrated on the display 20.

At step S13, the installing program 110 verifies whether or not the CD key has been input. If it is found that the CD key has not been input, the processing of step S13 is repeated until the CD key is input.

At step S13, if it is verified that the CD key has been input, the installing program 110 proceeds to step S14 where the installing program 110 searches a key set associated with the CD key from a key bundle recorded on the CD-ROM.

At step S15, the installing program 110 checks whether or not the installing operation is the second or any subsequent installing operation. If it is verified that the installing operation is not the second or any subsequent installing operation, the installing program 110 proceeds to step S16 to read out from the CD-ROM the key set searched at step S14. At step S17, the installing program 110 saves the key as read-out in the HDD 21.

If it is found at step S15 that the installing operation is the second or any subsequent installing operation, the steps S16 and S17 are skipped. The installing program 110 proceeds to step S18.

At step S18, the installing program 110 saves the CD key, MGID and Latest MGID in the HDD 21.

At step S19, the installing program 110 checks whether or not the display operation command program 112 and the content management program 111, already installed in the personal computer 1, are latest ones. If it is verified that any one of the display operation command program 112 and the content management program 111 installed in the personal computer 1 are not latest ones, the installing program 110 proceeds to step S20 to install the display operation command program 112 and the content management program 111 recorded on the CD-ROM on the personal computer

1.

At step S21, the installing program 110 updates the APID associated with the display operation command program 112 and the APID associated with the content management program 111. The installing program 110 then proceeds to step S22.

If it is verified at step S19 that both of the display operation command program 112 and the content management program 111 installed in the personal computer 1 are latest ones, the steps S20, S21 are skipped. The program then moves to step S22.

At step S22, the installing program 110 formulates a shortcut icon for booting the WWW browser 117 on the desktop. At step S23, the installing program 110 generates a URL associated with the EMD registration server 3. in the URL, generated at step S23, the CD key, MGID, Latest MGID and APID_{OMG} are set as arguments. At step S24, the installing program 110 records the generated URL in the registry.

At step S25, the installing program 110 displays a dialog box requesting re-booting.

At step S26, the installing program 110 verifies whether or not the re-booting has been selected. If it is verified that the re-booting has not been selected, the program reverts to step S26 to repeat the processing of step S26 until re-booting is selected.

If it is verified at step S26 that the re-booting has been selected, the program reverts to step S27 where the installing program 110 executes the re-booting.

At step S28, an operating system, not shown, of the personal computer 1 verifies

whether or not the icon for booting the shortcut icon or the WWW browser 117 has been double-clicked. If it is verified that the none of the shortcut icon nor the icon for booting the WWW browser 117 has been double-clicked, the processing of step S28 is repeated until a shortcut icon or an icon for booting the WWW browser 117 is double-clicked.

If it is verified that the one of the shortcut icon and the icon for booting the WWW browser 117 has been double-clicked, the program moves to step S29 where the operating system boots the WWW browser 117.

At step S31, the WWW browser 117 transmits the CD key, MGID, Latest MGID and $APID_{OMG}$, as an argument of the URL, to the EMD registration server 3.

At step S32, the EMD registration server 3 verifies whether or not the MGID received from the WWW browser 117 is normal, such as whether or not the number of digits is 20. If it is verified that the MGID is not normal, the program moves to step S33 where the personal computer 1 displays an error message to finish the processing.

If, at step S32, the MGID is verified to be normal, the EMD registration server 3 verifies whether or not $APID_{OMG}$ has been registered in the user database 8, in association with the CD key and MGID. If it is verified that the $APID_{OMG}$ has not been registered in the user database 8, the program moves to step S35 to check whether or not the $APID_{OMG}$ copes with the portable device 7-1.

If, at step s35, it is found that the $APID_{OMG}$ copes with the portable device 7-1, the program moves to step S36 where the EMD registration server 3 verifies whether

or not the language code of the APID_{OMG} is English. If it is verified that the language code of the APID_{OMG} is English, the program moves to step S37 to transmit data for displaying the corresponding registration explanation page in English associated with the portable device 7-1 to the WWW browser 117 of the personal computer 1 to cause the WWW browser 117 to display the corresponding registration explanation page in English associated with the portable device 7-1. This displays the corresponding registration explanation page in English associated with the portable device 7-1 in the WWW browser 117.

At step S38, the EMD registration server 3 verifies whether or not registration is to be made, based on the data transmitted from the WWW browser 117. If it is verified that registration is not to be made, the program moves to step S39 to transmit the data for demonstrating recommendations for registration in English to cause a dialog box recommending registration in English to be displayed in the WWW browser 117.

At step S40, the EMD registration server 3 verifies whether or not registration is to be made, based on data transmitted from the WWW browser 117. If it is verified that registration is not to be made, the program moves to step S74.

If it is verified at step S40 that registration is to be made, the program moves to step S41.

If it is verified at step S38 that registration is to be made, or if it is verified at step S40 that registration is to be made, the program moves to step S41 where data for

displaying the registration form in English corresponding to the portable device 7-1 is transmitted to the WWW browser 117 of the personal computer 1 to cause the WWW browser 117 to display the registration form in English corresponding to the portable device 7-1.

At step S42, the EMD registration server 3 verifies whether or not essential items of the registration form have been entered, based on data transmitted from the WWW browser 117. If it is verified that essential items of the registration form have not been entered, the program reverts to step S41 to repeat the processing of displaying the registration form in English for the portable device 7-1 on the WWW browser 117.

If it is verified at step S42 that the essential items of the registration form have been entered, the program moves to step S43 to transmit data displaying a page for verifying the registered contents to the WWW browser 117 of the personal computer to display a page of confirmation of the registered contents in the WWW browser 117.

At step S44, the EMD registration server 3 causes the user profile and the APID to be written in the user database 8. At step S45, the EMD registration server 3 transmits the data for displaying the fact of the registration to the WWW browser 117 of the personal computer 1 to cause the fact of the registration to be displayed on the WWW browser 117.

If the language code of APID_{OMG} is verified at step S36 to be Japanese, the program moves to step S46, where the EMD registration server 3 transmits data for displaying the page of registration explanation in Japanese corresponding to the

portable device 7-1 to the WWW browser 117 of the personal computer 1 to cause the corresponding page of registration explanation in Japanese corresponding to the portable device 7-1 to be displayed on the WWW browser 117.

At step S47, the EMD registration server 3 checks whether or not registration is to be made, based on data transmitted from the WWW browser 117. If it is verified that registration is not to be made, the program moves to step S48 to transmit the data for displaying the fact of recommendation for registration in Japanese to the WWW browser 117 to cause a dialog box recommending the registration to be displayed on the WWW browser 117.

At step S49, the EMD registration server 3 verifies whether or not registration is to be made, based on data transmitted from the WWW browser 117. If it is verified that registration is not to be made, the program moves to step S74.

If it is verified at step S49 that registration is to be made, the program moves to step S50.

If it is verified at step S47 that registration is to be made, or if it is verified at step S49 that registration is to be made, the program moves to step S50 to transmit data for displaying the registration form in Japanese corresponding to the portable device 7-1 to the WWW browser 117 of the personal computer 1 to cause the registration form in Japanese corresponding to the portable device 7-1 to be displayed on the WWW browser 117.

At step S51, the EMD registration server 3 verifies whether or not the essential

items of the registration form have been entered, based on data transmitted from the WWW browser 117. If it is verified that the essential items of the registration form have not been entered, the program reverts to step S50 to repeat the processing of causing the processing of displaying the registration form in Japanese corresponding to the portable device 7-1 to be displayed on the WWW browser 117.

If it is verified at step S51 that the essential items of the registration form have been entered, the program moves to step S52 where the EMD registration server 3 transmits data for displaying a page of confirmation of the contents of registration to the WWW browser 117 of the personal computer 1 to cause the page of confirmation of the contents of registration to be displayed on the WWW browser 117.

At step S53, the EMD registration server 3 causes the user profile and the APID to be written in the user database 8. At step S54, the data for displaying a page of confirmation of the contents of registration is transmitted to the WWW browser 117 of the personal computer 1 to cause the fact of registration to be displayed on the WWW browser 117.

If it is verified at step S35 that the APID_{OMG} corresponds to the portable device 7-2, the program moves to step S55 where the EMD registration server 3 checks whether or not the language code of the APID_{OMG} is English.

If it is verified at step S55 that the language code of the APID_{OMG} is English, the program moves to step S56 where the EMD registration server 3 transmits to the WWW browser 117 of the personal computer 1 the data for displaying the page of

explanation of registration in English corresponding to the portable device 7-2 to cause the page of explanation of registration in English corresponding to the portable device 7-2 to be displayed on the WWW browser 117.

Based on the data transmitted from the WWW browser 117, the EMD registration server 3 verifies whether or not the registration is to be made. If it is found that the registration is not to be made, the program moves to step S58 to transmit the data for displaying the recommendation for registration in English to the WWW browser 117 of the personal computer 1 to cause the dialog box recommending the registration of registration in English to be displayed on the WWW browser 117.

At step S59, the EMD registration server 3 verifies whether or not registration is to be made, based on data transmitted from the WWW browser 117. If it is verified that registration is not to be made, the program moves to step S74.

If it is verified at step S59 that registration is to be made, the program moves to step S60.

If it is verified at step S57 that registration is to be made, or if it is verified at step S59 that registration is to be made, the program moves to step S60 to transmit data for displaying the registration form corresponding to the portable device 7-2 in English to the WWW browser 117 of the picture printing system 1 to cause the registration form corresponding to the portable device 7-2 in English to be displayed on the WWW browser 117.

The EMD registration server 3 at step S61 verifies whether or not the essential

items of the registration form have been entered, based on the data transmitted from the WWW browser 117. If it is verified that the essential items of the registration form have not been entered, the program reverts to step S60 to repeat the processing of displaying the registration form corresponding to the portable device 7-2 in English on the WWW browser 117.

If it is found at step S61 that the essential items of the registration form have been entered, the program moves to step S62 where the EMD registration server 3 transmits the data for displaying the page for confirmation of the registered contents to the WWW browser 117 of the personal computer 1 to cause the page for confirmation of the registered contents to be displayed on the WWW browser 117.

At step S63, the EMD registration server 3 causes the user profile and the APID to be written in the user database 8. At step S64, the EMD registration server 3 transmits the data for displaying the fact of registration to the WWW browser 117 of the personal computer 1 to display the fact of registration on the WWW browser 117.

If it is verified at step S55 that the language code of the APID_{OMG} is Japanese, the program moves to step S65 where the EMD registration server 3 transmits the data for displaying the page for explanation of registration in Japanese to the WWW browser 117 of the personal computer 1 to cause the page for explanation of registration in Japanese corresponding to the portable device 7-2 to be displayed on the WWW browser 117.

At step S66, the EMD registration server 3 verifies whether or not registration

is to be made, based on data transmitted from the WWW browser 117. If it is verified that registration is not to be made, the program moves to step S67 to transmit the data for displaying the recommendations for registration in Japanese to the WWW browser 117 to display the dialog box recommending the registration on the WWW browser 117.

At step S68, the EMD registration server 3 verifies whether or not registration is to be made, based on data transmitted from the WWW browser 117. If it is verified that registration is not to be made, the program moves to step S74.

If it is verified at step S68 that registration is to be made, the program moves to step S69.

If it is verified at step S66 that registration is to be made, or if it is verified at step S68 that registration is to be made, the program moves to step S69 to transmit the data for displaying the registration form in Japanese corresponding to the portable device 7-2 to cause the registration form in Japanese corresponding to the portable device 7-2 to be displayed on the WWW browser 117.

The EMD registration server 3 at step S70 verifies whether or not the essential items of the registration form have been entered, based on the data transmitted from the WWW browser 117. If it is verified that the essential items of the registration form have not been entered, the program reverts to step S69 to repeat the processing of displaying the registration form corresponding to the portable device 7-2 in English on the WWW browser 117.

If it is found at step S70 that the essential items of the registration form have been entered, the program moves to step S71 where the EMD registration server 3 transmits the data for displaying the page for confirmation of the registered contents to the WWW browser 117 of the personal computer 1 to cause the page for confirmation of the registered contents to be displayed on the WWW browser 117.

At step S72, the EMD registration server 3 causes the user profile and the APID to be written in the user database 8. At step S73, the EMD registration server 3 transmits the data for displaying the fact of registration to the WWW browser 117 of the personal computer 1 to display the fact of registration on the WWW browser 117.

At step S74, the EMD registration server 3 transmits data indicating URL corresponding to the installer server 6 to the WWW browser 117, which then receives the data indicating the URL corresponding to the installer server 6 for coupling to the installer server 6. The installer server 6 transmits data for displaying the page for downloading to the WWW browser 117 of the personal computer 1 to display the page for downloading on the WWW browser 117.

Based on the data transmitted from the WWW Browser 117, the installer server 6 at step S75 verifies whether or not the display of the installing sequence has been requested. If it is verified that the display of the installing sequence has been requested, the installer server 6 proceeds to step S76 to transmit the data for demonstrating the installing sequence to the WWW browser 117 of the personal computer 1 to cause the installing sequence to be demonstrated on the WWW browser

117. The installer server 6 then reverts to step S74.

If it is verified at step S75 that the display of the installing sequence has not been requested, the installer server 6 proceeds to step S77 where the installer server 6 verifies, based on the data transmitted from the WWW browser 117, whether or not the installation has been requested.

If it has been verified that the installation is not requested at step S77, the installer server 6 reverts to step S75 to repeat the processing of verifying whether or not the display of the installing sequence has been requested.

If it is verified at step S77 that installation has been requested, the installer server 6 moves to step S78 where the installer server 6 causes the WWW browser 117 to download and install the purchasing application program 115 associated with the portable device 7. At step S79, the installer server 6 causes the WWW browser 117 to download and install the key installing program 118.

At step S80, the WWW browser 117 boots the key installing program 118. At step S81, the key installing program 118 reads out the APID in the personal computer 1.

At step S82, the key installing program 118 verifies whether or not the APID in the personal computer 1 has been read out in success. If it is found that the APID readout has resulted in failure, the installer server 6 moves to step S83 to display that the APID readout has resulted in failure to finish the processing.

If it is verified at step S82 that APID readout is successful, the installer server

6 proceeds to step S84 where the key installing program 118 connects to the network 2.

At step S85, the key installing program 118 transmits the CD key, MGID, $APID_{PL}$ and $APID_{OMG}$, as an argument of the URL, to the key server 5.

At step S86, the key server 5 verifies whether or not the received MGID is normal, for example, has the number of digits equal to 20. If it is found that the MGID is not normal, the installer server 6 moves to step S87 to cause the personal computer 1 to display an error message to finish the processing.

If it is verified at step S86 that the MGID is normal, the installer server 6 moves to step S88 where the key server 5 makes an inquiry whether or not the CD key and the MGID as received have been registered. If it is found that no registration of the CD key nor the MGID has been made by the EMD registration server 3, the installer server 6 moves to step SHUTTER MEMBER 89 to cause the key installing program 118 to cause the registration form to be displayed by the key installing program 118 for registering the name and the E-mail address. If no registration of the CD key nor the MGID has been made, the processing is finished.

If the name and the E-mail address have been registered at step Shutter member 89 or it is verified at step S88 that the CD key and the MGID have been registered, the key installing program 118-1 transmits to the key server 5 the APID associated with "false" indicating that a key necessary for downloading the key has not been installed. At step S91, the key installing program 118 downloads the key set associated with the

program the key set of which has not been installed from the key server 5.

At step S92, the key installing program 118 records the downloaded key in the HDD 21. At step S93, the key installing program 118 transmits the MGID and APID_{OMG} to the key server 5. At step S94, the key installing program 118 receives the URL associated with one of the EMD servers 4-1 to 4-4 and associated with the APID_{OMG}. The key installing program 118-1 records the received key to associate the APID transmitted at step S90 "true" indicating that no key necessary in content downloading has been installed.

At step S95, the key installing program 118-1 erases a shortcut icon on the desktop. At step S96, the WWW browser 117 accesses one of the EMD servers 4-1 to 4-4, based on the URL set at step S94, to finish the processing.

Thus, in registration, the personal computer 1 is able to acquire the key necessary in downloading the contents from the EMD servers 4-1 to 4-4 without the user specifying the key type etc. If no registration is made, the personal computer 1 is unable to acquire the key necessary in downloading the contents from the EMD servers 4-1 to 4-4.

The key furnished by the key server 5 to the personal computer 1 is a key inherent to each of the content management program 111 and the purchasing application program 115.

After acquiring the key necessary for downloading the contents from the EMD servers 4-1 to 4-4, the personal computer 1 is able to connect to one of the EMD

servers 4-1 to 4-4 associated with the user language or the attributes of the portable device 7, without requesting the user setting.

Referring to the flowchart of Figs.29 and 30, the processing for key downloading corresponding to the processing of steps S84 to S94 is explained in detail.

At step S101, the key installing program 118 of the personal computer 1 transmits connection request to the key server 5 as the CD key, MGID, APID_{PL} and APID_{OMG}, as an argument of the URL, are attached, to transmit the connection request to the key server 5.

At step S201, the key server 5 receives connection request from the key installing program 118. At step S202, the key server 5 transmits an inquiry whether or not the MGID has been registered, by attaching the CD key and the MGID to the user database 8 through the EMD registration server 3.

At step S301, the user database 8 receives an inquiry from the key server 5 through the EMD registration server 3. At step S302, the user database 8 retrieves whether or not the MGID has been retrieved, based on the CD key and the MGID. At step S303, the user database 8 transmits the retrieved result as to whether or not the MGID has been registered through the EMD registration server 3 to the key server 5.

At step S203, the key server 5 receives the retrieved results from the user database 8 indicating whether or not the MGID has been registered. At step S204, the key server 5 transmits the retrieved results indicating as to whether or not the MGID has been registered to the key installing program 118 of the personal computer 1.

At step S102, the key installing program 118 of the personal computer 1 receives the retrieved results from the key server 5 indicating whether or not the MGID has been registered. At step S103, the key installing program 118 verifies whether or not registration has been made, based on the retrieved results, received at step S102, indicating whether or not the MGID has been registered. If it is found that no registration has been made, the key installing program 118 moves to step S104 to display the registration form shown in Fig.13. If the name or the E-mail address has been input on the registration form, the key installing program 118 at step S105 transmits the profile data, such as name or the E-mail address to the key server 5.

At step S205, the key server 5 receives profile data, such as name or the E-mail address, transmitted from the key installing program 118. At step S206, the key server 5 transmits profile data, such as name or the E-mail address, through the EMD registration server 3 to the user database 8.

At step S304, the user database 8 receives the profile data, such as name or the E-mail address, transmitted from the key server 5, through the EMD registration server 3. At step S305, the user database 8 registers the profile data, such as name or the E-mail address, in association with the CD key and the MGID acquired at step S301. At step S306, the user database 8 transmits the notification of registration to the key server 5 through the EMD registration server 3.

At step S207, the key server 5 receives the notification of registration transmitted from the user database 8. At step S208, the key server 5 transmits the

notification of registration to the key installing program 118 of the personal computer 1.

At step S106, the key installing program 118 of the personal computer 1 receives the notification of registration transmitted from the key server 5 and then proceeds to step S107.

If it is verified at step S103 that registration has been made, there is no necessity of processing for registration. So, the key installing program 118 moves to step S107.

At step S107, the key installing program 118 transmits the APID of the program, for which no key has been installed, to the key server 5.

At step S209, the key server 5 receives the APID transmitted from the key installing program 118. At step S210, the key server 5 requests the key database 9 to issue a key based on the APID.

At step S401, the key database 9 receives the request of issuance of the key as well as the APID. At step S402, the key database 9 issues a key (inherent key) associated with the APID. At step S403, the key database 9 transmits the issued key to the key server 5.

At step S211, the key server 5 receives the key from the key database 9. At step S212, the key server 5 transmits the key received at step S211 to the key installing program 118 of the personal computer 1.

At step S108, the key installing program 118 of the personal computer 1 receives the key transmitted from the key server 5. At step S109, the key installing program 118

saves the key received at step S109 in a pre-set file in the HDD 21. The key installing program 118-1 makes setting that the key has been installed in the associated APID.

At step S213, the key server 5 at step S202 verifies, based on the CD key and the MGID acquired, whether or not a new key set comprising a new master key MGMK, a new personal key MGIK and a new storage key Rip-SK, is to be transmitted.

For example, the purport of issuing a new key set when one of the new master key MGMK, new personal key MGIK and the new storage key Rip-SK has been broken is set in advance in the key server 5, whereby the key server 5 automatically updates the master key MGMK, personal key MGIK and the storage key Rip-SK in the personal computer having the pre-set CD key and the MGID.

If it is verified at step S213 that a new key set is to be transmitted, the key server 5 moves to step S214 to transmit a new key set to the key installing program 118 of the personal computer 1.

At step S110, the key installing program 118 of the personal computer 1 receives the new key set transmitted from the key server 5. At step S111, the key installing program 118 saves the new key set, received at step S110, in a pre-set file of the HDD 21.

If it is verified at step S213 that the new key set is not to be transmitted, the steps S214, S110 and S111 are skipped.

At step S112, the key installing program 118 of the personal computer 1 transmits the APID_{OMG}, as the APID of the content management program 111, to the

key server 5.

At step S215, the key server 5 receives the $APID_{OMG}$. At step S216, the key server 5 retrieves the attributes of the $APID_{OMG}$ and the associated table of the URL, previously recorded, based on the received $APID_{OMG}$, to select the pre-set URL to transmit the selected URL to the key installing program 118 of the personal computer 1.

At step S113, the key installing program 118 of the personal computer 1 receives the URL transmitted from the key server 5. At step S114, the key installing program 118 of the personal computer 1 saves the URL received at step S113 in a pre-set file, such as registry, to finish the processing.

The personal computer is able to acquire the key necessary in downloading the contents from the EMD servers 4-1 to 4-4, as described above.

Although the above-described sequence of operations can be executed by a hardware, it can also be executed by the software. If the sequence of the processing operations are executed by the software, the a program forming the software is installed from a program storage medium to a computer built into a dedicated hardware or a general-purpose personal computer on which a variety of programs can be installed to execute various functions.

The program storage medium for storing the program installed on a computer so as to be executed by the computer may be realized by a magnetic disc 41 or 91, inclusive of a floppy disc, an optical disc 42 or 92 (CD-ROM)(Compact Disc –Read-

Only Memory), or a DVD (Digital Versatile Disc)), a magneto-optical disc 43 or 93, including a MD (Mini-Disc), a package medium, such as semiconductor memory 44 or 94, a ROM 12 or 62 in which the program can be stored transiently or permanently, or a HDD 21 or 71, as shown in Figs.2 and 3. The storage of the program in the program storage medium is carried out using a wired or wireless communication medium, such as digital satellite broadcast, over a network 2, such as Local Area Network or Internet, through an interface, such as communication unit 25 or 73.

In the present specification, the steps stating the program stored in the program storage medium includes not only the processing carried out chronologically in accordance with the stated sequence but also processing carried out in parallel or individually without being executed chronologically.

In the present specification, the system means the entire apparatus realized by plural devices.

Claims

1. A registration apparatus comprising:

first recording means for recording second data for displaying a picture for inputting first data specifying a user for registration, in association with attributes relevant to said user;

first receiving means for receiving, from an information processing device used by said user, a transmission request for transmission of said second data, along with third data specifying said information processing device and said attributes;

selection means for selecting said second data recorded in said recording means, based on said attributes received by said first receiving means;

transmission means for transmitting said second data selected by said selection means to said information processing device;

second receiving means for receiving said first data which specifies said user and which has been input from said information processing device based on said second data; and

second recording means for recording said first data in association with said third data specifying said information processing device used by said user.

2. The registration apparatus according to claim 1 wherein said first receiving means receives the information indicating the language as said attribute.

3. The registration apparatus according to claim 1 wherein said first receiving means receives the information indicating a terminal device used by being connected to said

information processing device as said attribute.

4. A registration method comprising:

... a first recording step of recording second data for displaying a picture for inputting first data specifying a user for registration, in association with attributes relevant to said user;

... a first receiving step of receiving, from an information processing device used by said user, a transmission request for transmission of said second data, along with third data specifying said information processing device and said attributes;

... a selection step of selecting said second data recorded in said recording step, based on said attributes received by said first receiving step;

... a transmission step of transmitting said second data selected by said selection step to said information processing device;

... a second receiving step of receiving said first data which specifies said user and which has been input from said information processing device based on said second data; and

... a second recording step of recording said first data in association with said third data specifying said information processing device used by said user.

5. A program storage medium having stored therein a computer-readable program which program comprises:

... a first receiving step of receiving, from an information processing device used by said user, a transmission request for transmission of third data, along with first data

specifying said information processing device used by a user and attributes relevant to said user, said third data demonstrating a picture for inputting second data specifying said user;

a selection step of selecting said third data recorded in said first recording step, based on said attributes received by said first receiving step;

a transmission step of transmitting said third data selected by said selection step to said information processing device;

a second receiving step of receiving said second data which specifies said user and which has been input from said information processing device based on said third data; and

a second recording step of recording said second data in association with said first data specifying said information processing device used by said user.

6. (Amended) An information processing apparatus comprising:

acquisition means for acquiring data specifying the location of a registration device;

transmission means for transmitting attributes relevant to said user to first furnishing device on completion of registration of a user in said registration device;

wherein said attributes are information specifying the language to be used by the user or information specifying terminal device used by being connected to the information processing device itself;

receiving means for receiving data indicating the location of a second furnishing

Art 19

device corresponding to said attributes relevant to said user from said first furnishing device; and

communication means for requesting registration of said user to said registration device, based on data acquired by said acquisition means and which specify the location of a registration device, said communication means also communicating with said second furnishing device based on data acquired by said receiving means and which specify the location of said second furnishing device.

7. (Amended) The information processing apparatus according to claim 6 wherein said registration device is a registration server for performing user registration for contents distribution;

wherein said data indicating the location is a URL;

wherein said attributes are application program IDs corresponding to a management program for managing said contents; and

wherein said communication means receives the URL being data specifying a location of said second furnishing device, corresponding to said application program ID.

8. (Amended) The information processing apparatus according to claim 7 wherein said first furnishing device is a key server, and said second furnishing device is a contents furnishing server; and

wherein said communication means communicates with said contents furnishing server based on the URL of said contents furnishing server, received from said key

ACT 19

server corresponding to said application program ID.

9. (Amended) An information processing method comprising:

an acquisition step of acquiring data specifying the location of a registration device;

a transmission step of transmitting attributes relevant to said user to first furnishing device on completion of registration of a user in said registration device;

wherein said attributes are information specifying the language to be used by the user or information specifying terminal device used by being connected to an information processing device itself;

a receiving step of receiving data indicating the location of a second furnishing device corresponding to said attributes relevant to said user from said first furnishing device; and

a communication step of requesting registration of said user to said registration device, based on data acquired by said acquisition means and which specify the location of a registration device, said communication step also communicating with said second furnishing device based on data acquired by said receiving step and which specify the location of said second furnishing device.

10. (Amended) A program storage medium having stored therein a computer-readable program which program comprises:

an acquisition step of acquiring data specifying the location of a registration device;

ART 19

a transmission step of transmitting attributes relevant to said user to first furnishing device on completion of registration of a user in said registration device;

wherein said attributes are information specifying the language to be used by the user or information specifying terminal device used by being connected to an information processing device itself;

a receiving step of receiving data indicating the location of a second furnishing device corresponding to said attributes relevant to said user from said first furnishing device; and

a communication step of requesting registration of said user to said registration device, based on data acquired by said acquisition means and which specify the location of a registration device, said communication step also communicating with said second furnishing device based on data acquired by said receiving step and which specify the location of said second furnishing device.

11. (Amended) A furnishing apparatus comprising:

recording means for recording data specifying the location of a contents furnishing device furnishing the contents in association with attributes relevant to a user of the information processing device;

receiving means for receiving the attributes relevant to a user from said information processing device;

selecting means for selecting said data indicating the location of said contents furnishing device which is recorded in said recording means and which indicates the

ART 19

location of said contents furnishing device, based on said attributes received in said receiving step; and

transmission means for transmitting to said information processing device said data which indicates the location of said contents furnishing device furnishing the contents and which is selected by said selection means,

wherein said attributes include information specifying the language to be used by the user or information specifying terminal device used by being connected to the information processing device itself, and are application program IDs corresponding to a management program for managing said contents in said information processing device.

12. (Amended) The furnishing apparatus according to claim 11 wherein said management program is provided, accompanied with said terminal device, and is installed in said information processing device such that said application program ID is supplied to said information processing device, and said application program ID is received by said receiving means after said user executes predetermined registration processing.

13. (Amended) The furnishing apparatus according to claim 12 wherein said recording means records a URL of said contents furnishing device corresponding to said application program ID, and said transmission means transmits said URL to said information processing device.

14. (Amended) A furnishing method comprising:

ART 19

a recording step of recording data specifying the location of a contents furnishing device furnishing the contents in association with attributes relevant to a user of the information processing device;

a receiving step of receiving the attributes relevant to a user from said information processing device;

a selecting step of selecting said data indicating the location of said contents furnishing device which is recorded in said recording step and which indicates the location of said contents furnishing device, based on said attributes received in said receiving step; and

a transmission step of transmitting to said information processing device said data which indicates the location of said contents furnishing device furnishing the contents and which is selected in said selection step,

wherein said attributes include information specifying the language to be used by the user or information specifying terminal device used by being connected to the information processing device itself, and are application program IDs corresponding to a management program for managing said contents in said information processing device.

15. (Amended) A program storage medium having stored therein a computer-readable program which program comprises:

an acquisition step of acquiring attributes relevant to a user and which has been furnished from an information processing device;

ART 19

a selection step of selecting data indicating the location of said contents furnishing device pre-recorded in association with said attributes of said information processing device relevant to said user, based on said attributes obtained in said acquisition step; and

a transmission step of transmitting to said information processing device said data which indicates the location of said contents furnishing device furnishing the contents and which is selected in said selection step,

wherein said attributes include information specifying the language to be used by the user or information specifying terminal device used by being connected to the information processing device itself, and are application program IDs corresponding to a management program for managing said contents in said information processing device.

16. (Amended) A furnishing apparatus comprising:

first receiving means for receiving from a first information processing device, along with first data specifying said first information processing device and a contents management program and second data indicating said contents management program in need of a key, a request for transmission of said key;

said first data solely indicates said contents management program, and is an ID specifying said first information processing device having installed therein said contents management program;

said second data is an application program ID of said contents management

ART 19

program;

said first and second data are installed when said contents management program is installed in said first information processing device;

requesting means for requesting decision as to whether or not said first information processing device has been registered based on said first and second data;

second receiving means for receiving from said second information processing device the results of decision as to whether or not said first information processing device has been registered;

instruction means for instructing said first information processing device to provide with a key installing program for installing said key on receipt of the result of decision that said first information processing device has been registered;

key generating means for generating said key associated with said program based on said first and second data; and

transmission means for transmitting the generated key to said first information processing device, using said key installing program that said first information processing device has downloaded.

17. (Amended) A furnishing method comprising:

a first receiving step of receiving from a first information processing device, along with first data specifying said first information processing device and a contents management program and second data indicating said contents management program in need of a key, a request for transmission of said key;

ALT 19

said first data solely indicates said contents management program, and is an ID specifying said first information processing device having installed therein said contents management program;

said second data is an application program ID of said contents management program;

said first and second data are installed when said contents management program is installed in said first information processing device;

a requesting step of requesting decision as to whether or not said first information processing device has been registered based on said first and second data;

a second receiving step of receiving from said second information processing device the results of decision as to whether or not said first information processing device has been registered;

an instruction step of instructing said first information processing device to provide with a key installing program for installing said key on receipt of the result of decision that said first information processing device has been registered;

a key generating step of generating said key associated with said program based on said first and second data; and

a transmission step of transmitting the generated key to said first information processing device, using said key installing program that said first information processing device has downloaded.

18. (Amended) A program storage medium having stored therein a computer-readable

ART 19

program wherein said program comprising:

a first receiving step of receiving from a first information processing device, along with first data specifying said first information processing device and a contents management program and second data indicating said contents management program in need of a key, a request for transmission of said key;

said first data solely indicates said contents management program, and is an ID specifying said first information processing device having installed therein said contents management program;

said second data is an application program ID of said contents management program;

said first and second data are installed when said contents management program is installed in said first information processing device;

a requesting step of requesting decision as to whether or not said first information processing device has been registered based on said first and second data;

a second receiving step of receiving from said second information processing device the results of decision as to whether or not said first information processing device has been registered;

an instruction step of instructing said first information processing device to provide with a key installing program for installing said key on receipt of the result of decision that said first information processing device has been registered;

a key generating step of generating said key associated with said program based

ART 19

on said first and second data; and

a transmission step of transmitting the generated key to said first information processing device, using said key installing program that said first information processing device has downloaded.

0922007 0910

ART 19

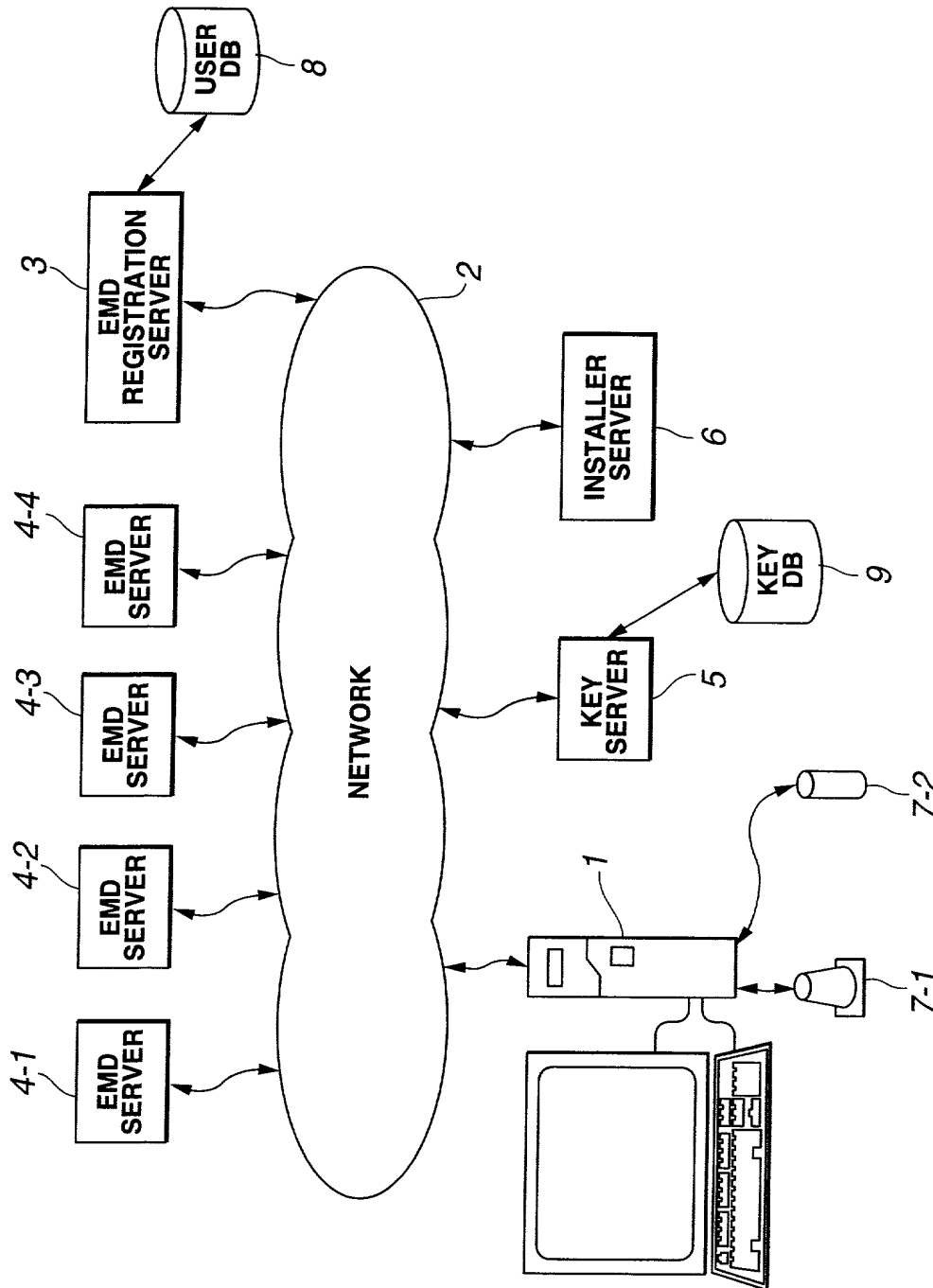


FIG. 1

[illegible]

2/30

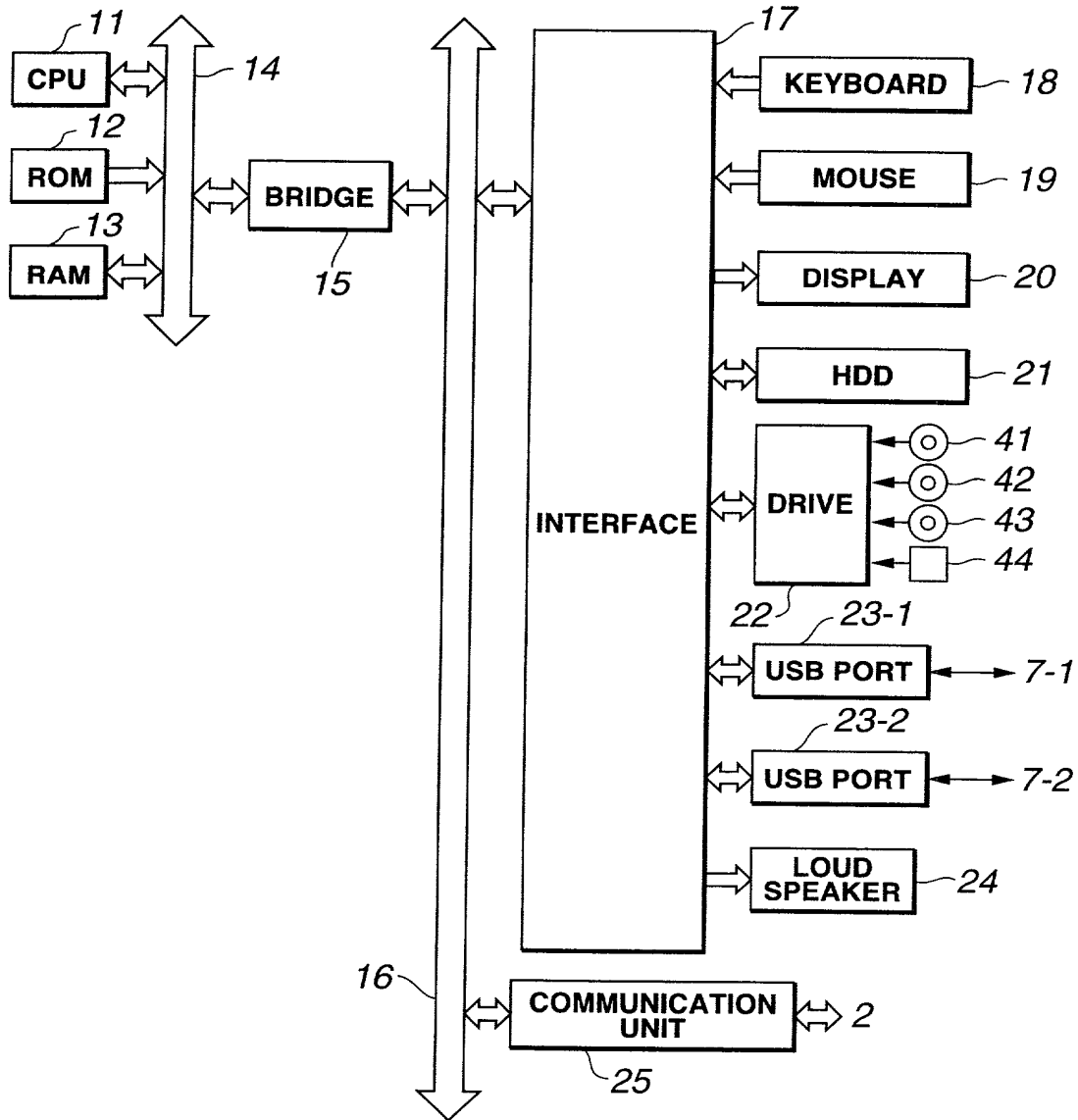


FIG.2

3/30

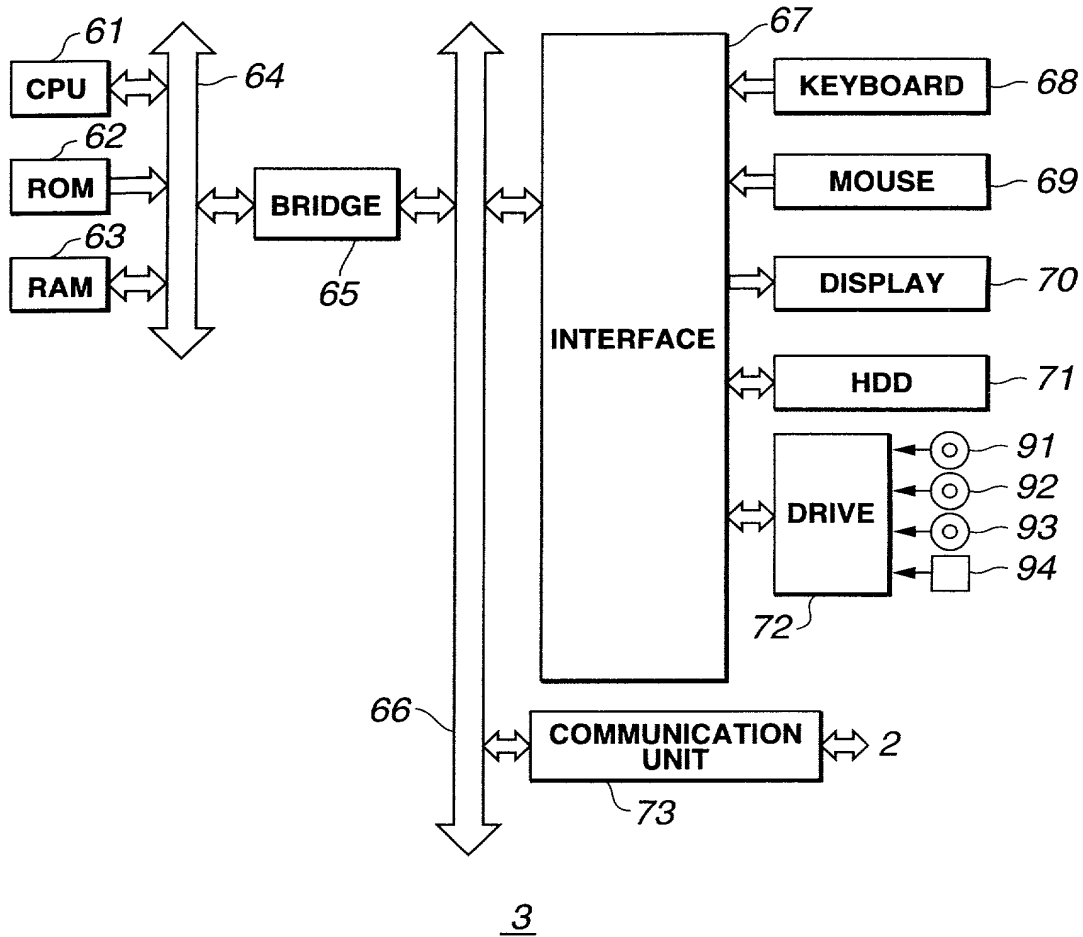


FIG.3

4/30

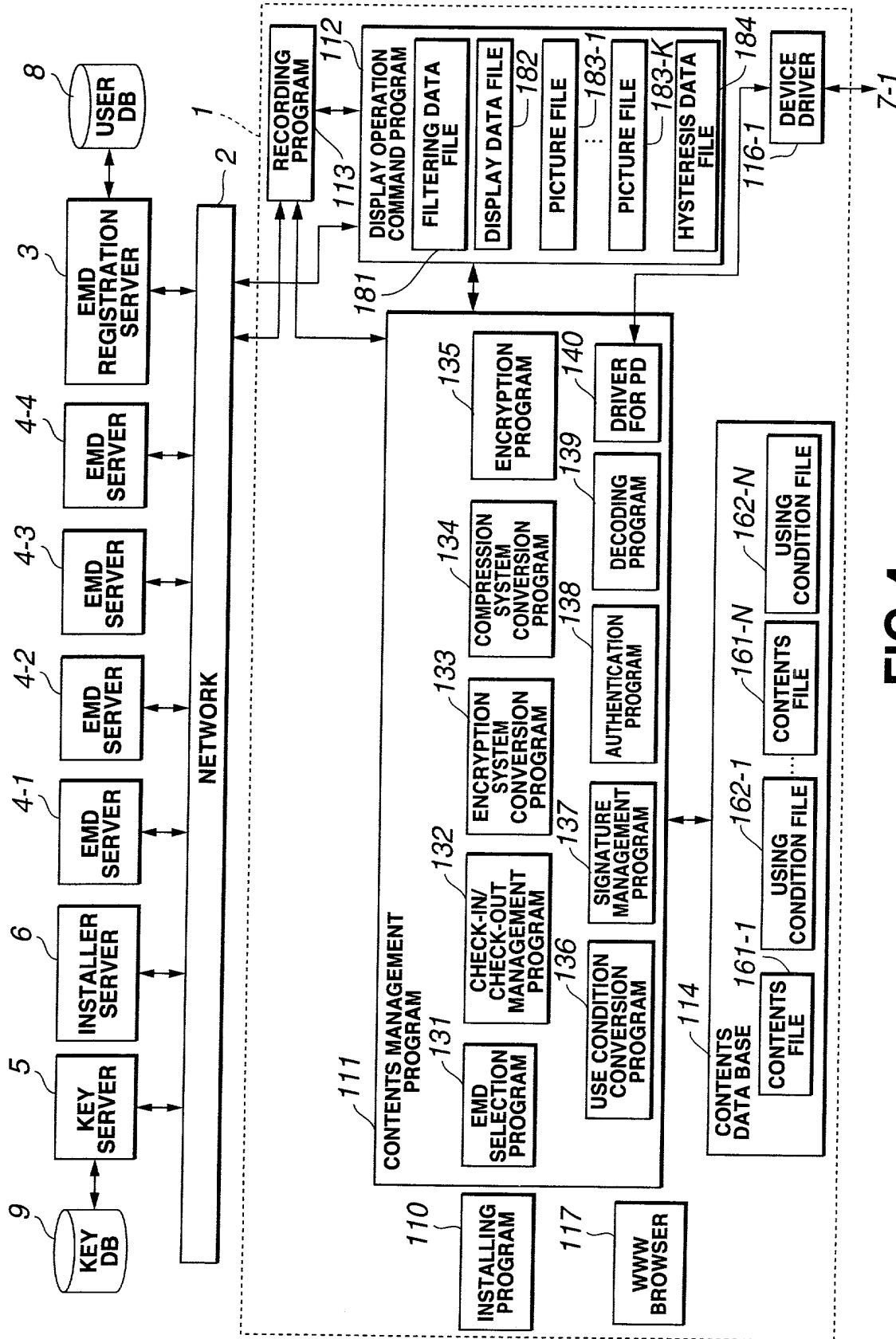


FIG.4

5/30

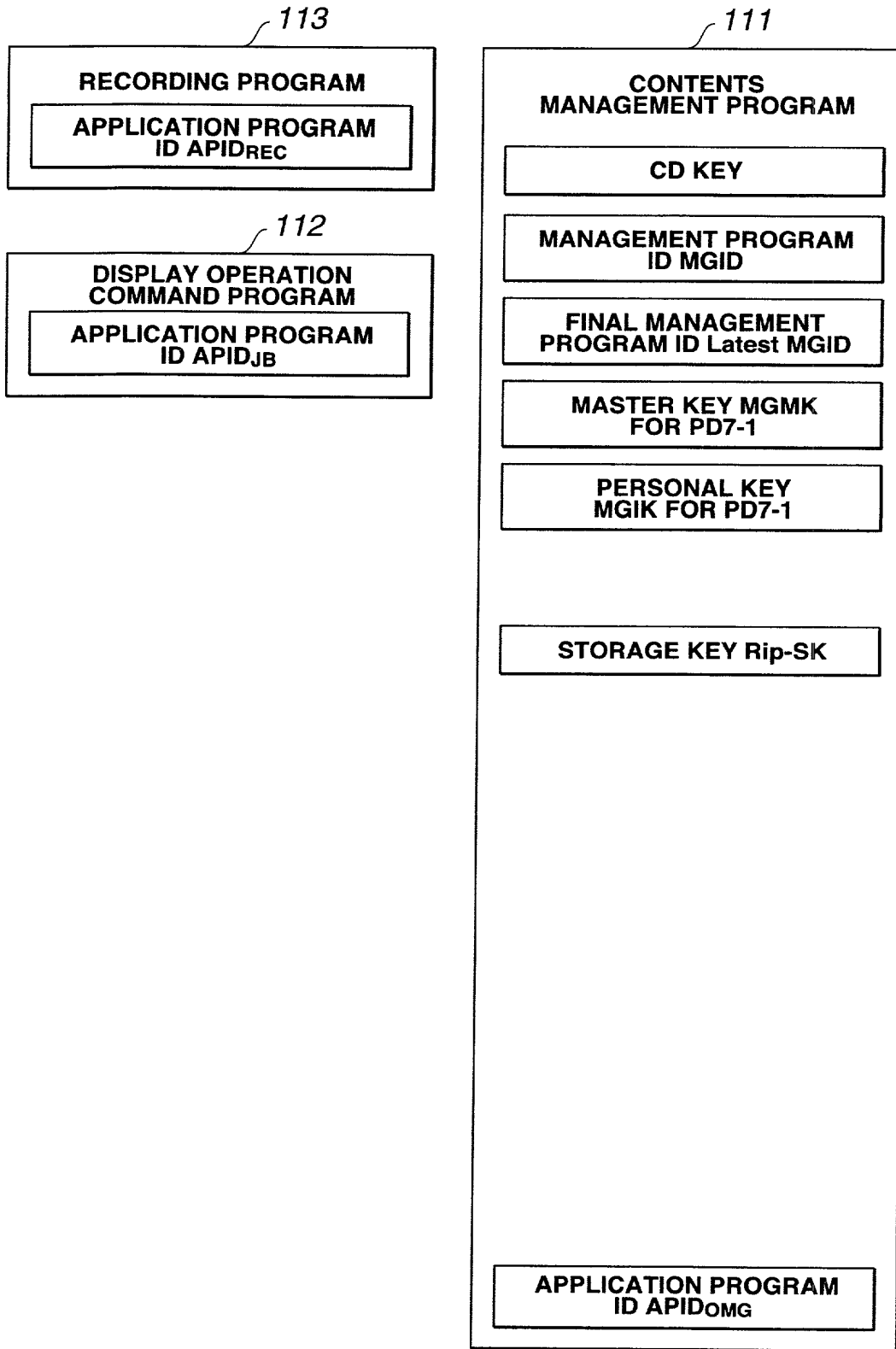


FIG.5

FIG. 5

FIG. 6

09/926007

6/30

301

347

348

349

350

351

352

353

354

355

356

357

358

359

360

361

362

363

364

365

366

367

368

369

370

371

372

373

374

375

376

377

378

379

380

381

382

383

384

385

386

387

388

389

390

391

392

393

394

395

396

397

398

399

400

401

402

403

404

405

406

407

408

409

410

411

412

413

414

415

416

417

418

419

420

421

422

423

424

425

426

427

428

429

430

431

432

433

434

435

436

437

438

439

440

441

442

443

444

445

446

447

448

449

450

451

452

453

454

455

456

457

458

459

460

461

462

463

464

465

466

467

468

469

470

471

472

473

474

475

476

477

478

479

480

481

482

483

484

485

486

487

488

489

490

491

492

493

494

495

496

497

498

499

500

501

502

503

504

505

506

507

508

509

510

511

512

513

514

515

516

517

518

519

520

521

522

523

524

525

526

527

528

529

530

531

532

533

534

535

536

537

538

539

540

541

542

543

544

545

546

547

548

549

550

551

552

553

554

555

556

557

558

559

560

561

562

563

564

565

566

567

568

569

570

571

572

573

574

575

576

577

578

579

580

581

582

583

584

585

586

587

588

589

590

591

592

593

594

595

596

597

598

599

600

601

602

603

604

605

606

607

608

609

610

611

612

613

614

615

616

617

618

619

620

621

622

623

624

625

626

627

628

629

630

631

632

633

634

635

636

637

638

639

640

641

642

643

644

645

646

647

648

649

650

651

652

653

654

655

656

657

658

659

660

661

662

663

664

665

666

667

668

669

670

671

672

673

674

675

676

677

678

679

680

681

682

683

684

685

686

687

688

689

690

691

692

693

694

695

696

697

698

699

700

701

702

703

704

705

706

707

708

709

710

711

712

713

714

715

716

717

718

719

720

721

722

723

724

725

726

727

728

729

730

731

732

733

734

735

736

737

738

739

740

741

742

743

744

745

746

747

748

749

750

751

752

753

754

755

756

757

758

759

760

761

762

763

764

765

766

767

768

769

770

771

772

773

774

775

776

777

778

779

780

781

782

783

784

785

786

787

788

789

790

791

792

793

794

795

796

797

798

799

800

801

802

803

804

805

806

807

808

809

810

811

812

813

814

815

816

817

818

819

820

821

822

823

824

825

826

827

828

829

830

831

832

833

834

835

836

837

838

839

840

841

842

843

844

845

846

847

848

849

850

851

852

853

854

855

856

857

858

859

860

861

862

863

864

865

866

867

868

869

870

871

872

873

874

875

876

877

878

879

880

881

882

883

884

885

886

887

888

889

890

891

892

893

894

895

896

897

898

899

900

901

902

903

904

905

906

907

908

909

910

911

912

913

914

915

916

917

918

919

920

921

922

923

924

925

926

927

928

929

930

931

932

933

934

935

936

937

938

939

940

941

942

943

944

945

946

947

948

949

950

951

952

953

954

955

956

957

958

959

960

961

962

963

964

965

966

967

968

969

970

971

972

973

974

975

976

977

978

979

980

981

982

983

984

985

986

987

988

989

990

991

992

993

994

995

996

997

998

999

1000

1001

1002

1003

1004

1005

1006

1007

1008

1009

1010

1011

1012

1013

1014

1015

1016

1017

1018

1019

1020

1021

1022

1023

1024

1025

1026

1027

1028

1029

1030

1031

1032

1033

1034

1035

1036

1037

1038

1039

1040

1041

1042

1043

1044

1045

1046

1047

1048

1049

1050

1051

1052

1053

1054

1055

1056

1057

1058

1059

1060

1061

1062

1063

1064

1065

1066

1067

1068

1069

1070

1071

1072

1073

1074

1075

1076

1077

1078

1079

1080

1081

1082

1083

1084

1085

1086

1087

1088

1089

1090

1091

1092

1093

1094

1095

1096

1097

1098

1099

1100

1101

1102

1103

1104

1105

1106

1107

1108

1109

1110

1111

1112

1113

1114

1115

1116

1117

1118

1119

1120

1121

1122

1123

1124

1125

1126

1127

1128

1129

1130

1131

1132

1133

1134

1135

1136

1137

1138

1139

1140

1141

1142

1143

1144

1145

1146

1147

1148

1149

1150

1151

1152

1153

1154

1155

1156

1157

1158

1159

1160

1161

1162

1163

1164

1165

1166

1167

1168

1169

1170

1171

1172

1173

1174

1175

1176

1177

1178

1179

1180

1181

1182

1183

1184

1185

1186

1187

1188

1189

1190

1191

1192

1193

1194

1195

1196

1197

1198

1199

1200

1201

1202

1203

1204

1205

1206

1207

1208

1209

1210

1211

1212

1213

1214

1215

1216

1217

1218

1219

1220

1221

1222

1223

1224

1225

1226

1227

1228

1229

1230

1231

1232

1233

1234

1235

1236

1237

1238

1239

1240

1241

1242

1243

1244

1245

1246

1247

1248

1249

1250

1251

1252

1253

1254

1255

1256

1257

1258

1259

1260

1261

1262

1263

1264

1265

1266

1267

1268

1269

1270

1271

1272

1273

1274

1275

1276

1277

1278

1279

1280

1281

1282

1283

1284

1285

1286

1287

1288

1289

1290

1291

1292

1293

1294

1295

1296

1297

1298

1299

1300

1301

1302

1303

1304

1305

1306

1307

1308

1309

1310

1311

1312

1313

1314

1315

1316

1317

1318

1319

1320

1321

1322

1323

1324

1325

1326

1327

1328

1329

1330

1331

1332

1333

1334

1335

1336

1337

1338

1339

1340

1341

1342

1343

1344

1345

1346

1347

1348

1349

1350

1351

1352

1353

1354

1355

1356

1357

1358

1359

1360

1361

1362

1363

1364

1365

1366

1367

1368

1369

1370

1371

1372

1373

1374

1375

1376

1377

1378

1379

1380

1381

1382

1383

1384

1385

1386

1387

1388

1389

1390

1391

1392

1393

1394

1395

1396

1397

1398

1399

1400

1401

1402

1403

1404

1405

1406

1407

1408

1409

1410

1411

1412

1413

1414

1415

1416

1417

1418

1419

1420

1421

1422

1423

1424

1425

1426

1427

1428

1429

1430

1431

1432

1433

1434

1435

1436

1437

1438

1439

1440

1441

1442

1443

1444

1445

1446

1447

1448

1449

1450

1451

1452

1453

1454

1455

1456

1457

1458

1459

1460

1461

1462

1463

1464

1465

1466

1467

1468

1469

1470

1471

1472

1473

1474

1475

1476

1477

1478

1479

1480

1481

1482

1483

1484

1485

1486

1487

1488

1489

1490

1491

1492

1493

1494

1495

1496

1497

1498

1499

1500

1501

1502

1503

1504

1505

1506

1507

1508

1509

1510

1511

1512

1513

1514

1515

1516

1517

1518

1519

1520

1521

1522

1523

1524

1525

1526

1527

1528

1529

1530

1531

1532

1533

1534

1535

1536

1537

1538

1539

1540

1541

1542

1543

1544

1545

1546

1547

1548

1549

1550

1551

1552

1553

1554

1555

1556

1557

1558

1559

1560

1561

1562

1563

1564

1565

1566

1567

1568

1569

1570

1571

1572

1573

1574

1575

1576

1577

1578

1579

1580

1581

1582

1583

1584

1585

1586

1587

1588

1589

1590

1591

1592

1593

1594

1595

1596

1597

1598

1599

1600

1601

1602

1603

1604

1605

1606

1607

1608

1609

1610

1611

1612

1613

1614

1615

1616

1617

1618

1619

1620

1621

1622

1623

1624

1625

1626

1627

1628

1629

1630

1631

1632

1633

1634

1635

1636

1637

1638

1639

1640

1641

1642

1643

1644

1645

1646

1647

1648

1649

1650

1651

1652

1653

1654

1655

1656

1657

1658

1659

1660

1661

1662

1663

1664

1665

1666

1667

1668

1669

1670

1671

1672

1673

1674

1675

1676

1677

1678

1679

1680

1681

1682

1683

1684

1685

1686

1687

1688

1689

1690

1691

1692

1693

1694

1695

1696

1697

1698

1699

1700

1701

1702

1703

1704

1705

1706

1707

1708

1709

1710

1711

1712

1713

1714

1715

1716

1717

1718

1719

1720

1721

1722

1723

1724

1725

1726

1727

1728

1729

1730

1731

1732

1733

1734

1735

1736

1737

1738

1739

1740

1741

1742

1743

1744

1745

1746

1747

1748

1749

1750

1751

1752

1753

1754

1755

1756

1757

1758

1759

1760

1761

1762

1763

1764

1765

1766

1767

1768

1769

1770</

7/30

| APID | REGISTERED FORMAT |
|----------------------------|----------------------|
| $\alpha\alpha\alpha\alpha$ | 1 |
| $\beta\beta\beta\beta$ | 2 |
| $\gamma\gamma\gamma\gamma$ | 3 |
| ⋮ | ⋮ |

FIG.7

8/30

■個人登録

お名前(フリガナ)

氏 名
 (全角カタカナ)

お名前

(全角)

生年月日 (西暦)

年 月 日

性別

女性○ 男性○

■ご連絡先

郵便番号

- (半角英数字)

都道府県

下記からお選びください。▼

市区町村郡(フリガナ)

(全角カタカナ)

市区町村郡(全角)

町名・番地(フリガナ)

(全角カタカナ)

町名・番地

(全角)

マンション・ビル地

(全角)

電話番号

(半角数字)

FAX番号

(半角数字)

電子メールアドレス

(半角英数字)

■ご登録製品情報

ご購入機器の型名

製品(シリアル)番号

(半角数字)

ご購入日(西暦)

年 月 日 (半角数字)

販売元名

(全角)

■本機をご利用いただく環境

パソコンメーカー名

下記からお選びください。▼

パソコンのタイプ

下記からお選びください。▼

カスタマーID

■インターネット接続環境

インターネット接続環境

下記からお選びください。▼

他にお使いのUSB機器をお持ちですか?

はい○ いいえ○

今後情報をお送りしてよろしいですか?

はい○ いいえ○

戻る

登録する

記入を全てクリアする

FIG.8

FIG.8 09/926007

9/30

Demographics

*First Name

*Last Name

*Address

*City

*State

*Zip Code

*Home Phone

*Email

Your Age (Optional)

Gender (Optional)

Occupation (Optional)

Product purchase information

*Model Number

*Serial Number

The model number is printed on product packaging or instruction manual.

*Date Purchased

Source of product Purchase

When did you decide to purchase this product?

Which of the following influenced your purchase decision?

Did you buy this product for yourself or did you receive as a gift?

Would you like to receive important software upgrade information?

What company manufactures your computer?

What type of computer do you have?

Is your primary connection to the internet?

Is your primary internet provider?

Which of the following music web site do you visit regularly?(Optional)

Which activities do you regularly enjoy?(Optional)

Please rate your level of agreement with the following statements.

I tend to buy new electronics as soon as they are available?

I generally wait for prices to come down before buying new electronics?

I would like to receive e-mail regarding promotions and special offers?

Mail ☐ Female ☐

Click to Select

Click to Select

Month Year

Click to Select Others:

Click to Select

*****Click to Select*****

☐ Bought it for myself.

☐ Received it as a gift

Yes ☐ No ☐

Notebook ☐ Desktop ☐ Both ☐

☐ At home ☐ At work ☐ At school

☐ AOL ☐ Cmpuserve ☐ Local ISP ☐ Edu server

*****Click to Select*****

*****Click to Select*****

☐ Strongly Agree ☐ Somewhat Agree

☐ Do Not Agree

☐ Strongly Agree ☐ Somewhat Agree

☐ Do Not Agree

Yes ☐ No ☐

FIG.9

10/30

| MGID | CD KEY | USER PROFILE | APID |
|----------------------------|----------------------------|---------------------------------------|-----------------------------|
| 1 2 3 4 : : | A B C D : : | i i i i ro ro ro ro — : : | αααα ββββ — : : |

FIG.10

11/30

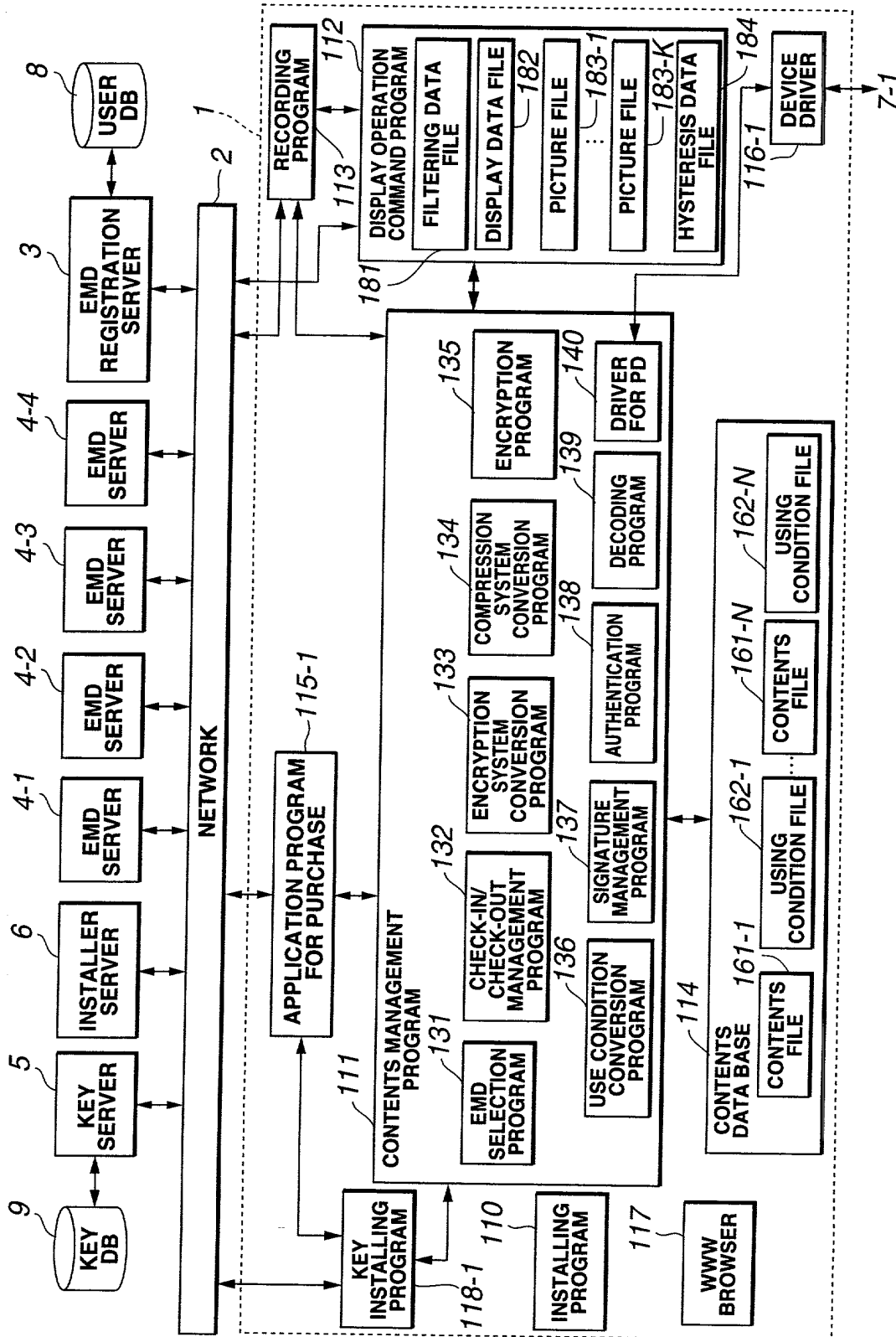


FIG. 11

09/926007

12/30

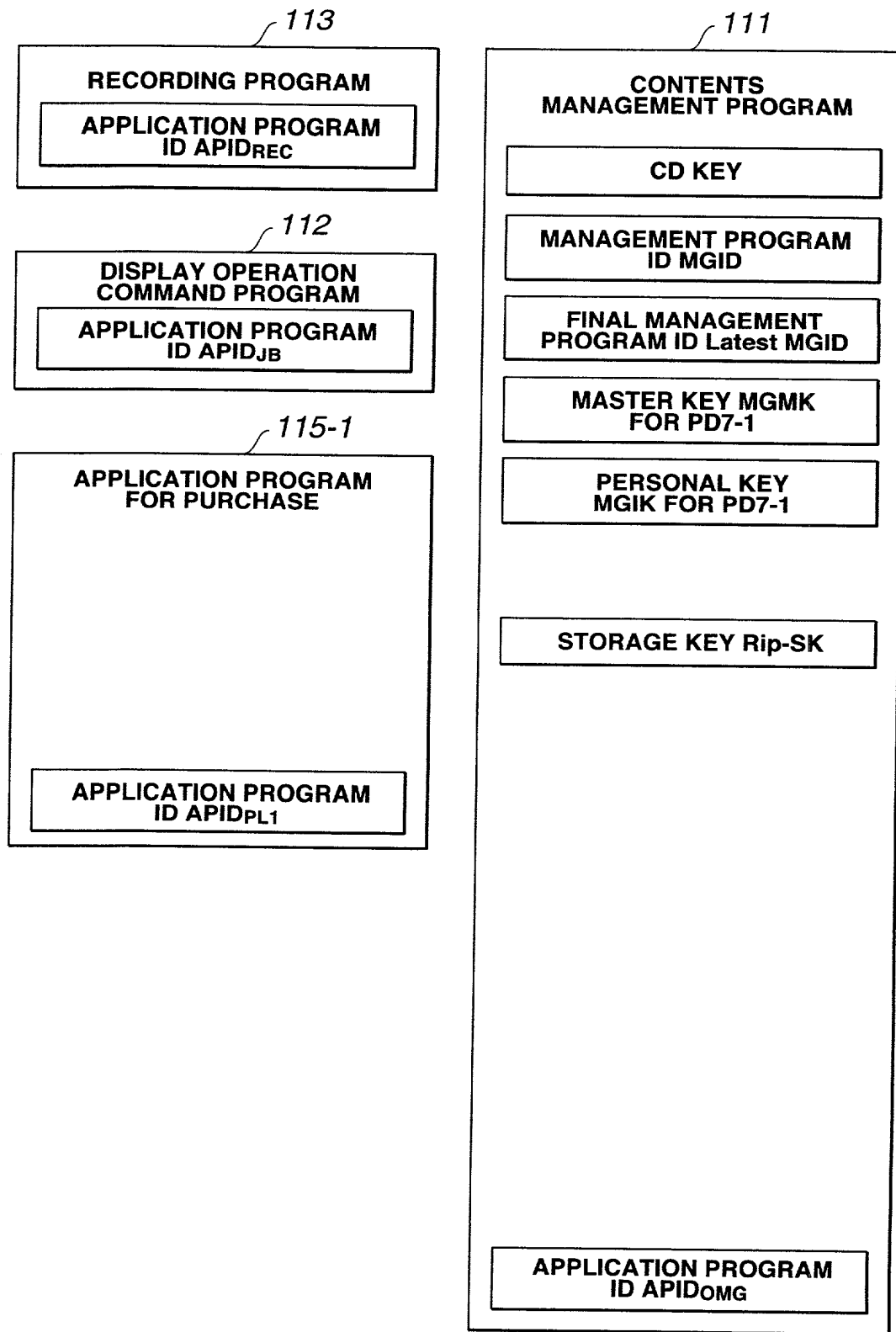


FIG.12

13/30

KEY INSTALLER

| | SECOND NAME | FIRST NAME |
|---|----------------------|---------------------------------------|
| NAME | <input type="text"/> | <input type="text"/> |
| E-MAIL ADDRESS | <input type="text"/> | |
| <input type="button" value="DOWNLOAD"/> | | <input type="button" value="CANCEL"/> |

FIG.13

14/30

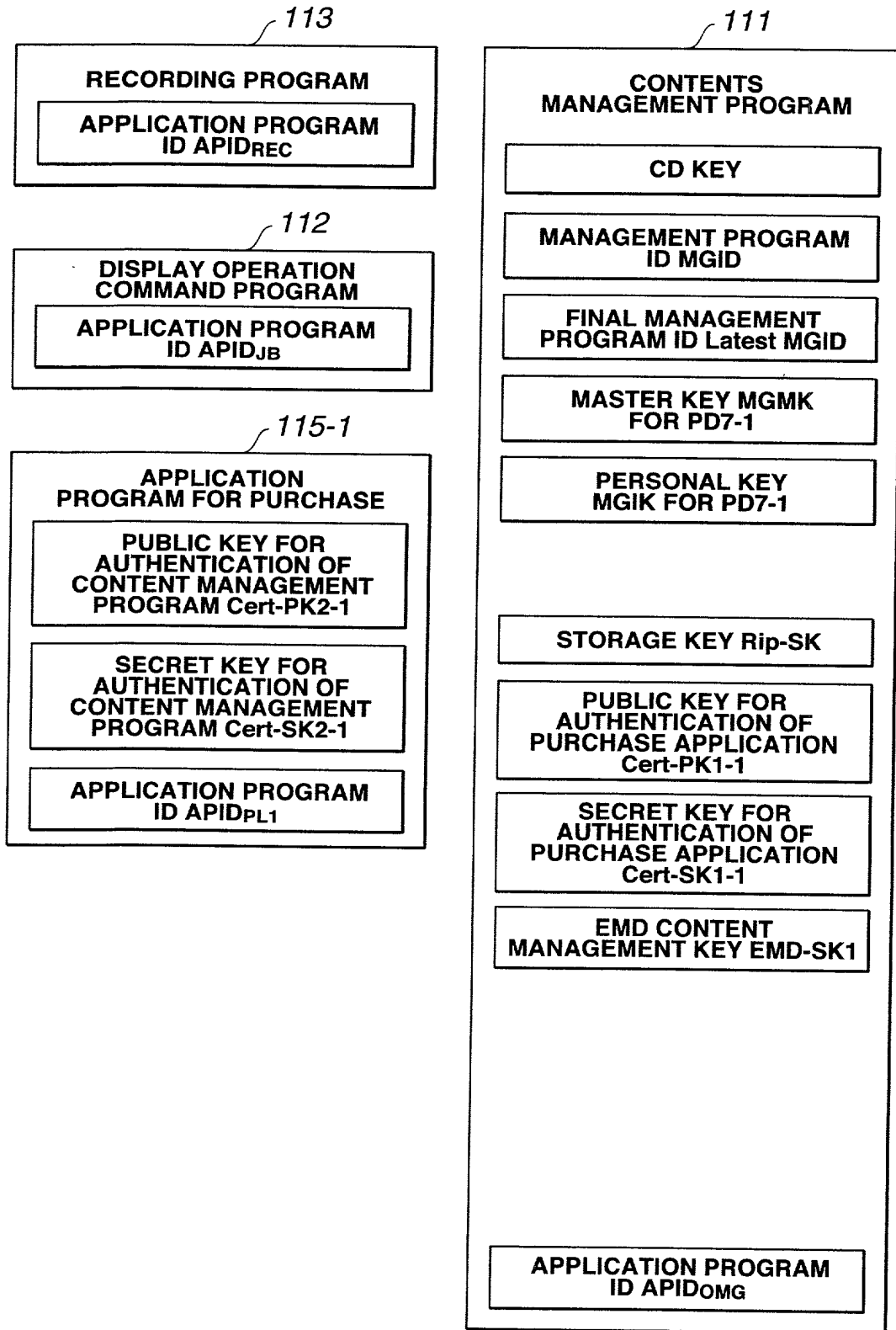


FIG.14

FIG. 15

09/926007

15/30

| APIID | REGISTRATION PAGE TYPE | NATION | LANGUAGE | PRODUCT TYPE NAME | INITIAL URL |
|---------------------------|---------------------------|--------|----------|----------------------|-----------------------------------|
| 001-081-019-500100-2-0001 | MSWM | JP | JAPANESE | NW-MS7 | http://www.opening.com/jp/ |
| 001-081-019-500100-2-0002 | MC | JP | JAPANESE | MC-P10 | http://www.opening.com/jp/ |
| 001-081-019-500100-3-0001 | VAIO | JP | JAPANESE | | http://www.opening.com/jp/ |
| 001-001-008-500100-2-0001 | MSWM | US | ENGLISH | NW-MS7 | http://www.sony.com/musiclub.html |
| 001-001-008-500100-2-0002 | MC | US | ENGLISH | MC-P10 | http://www.sony.com/musiclub.html |

FIG.15



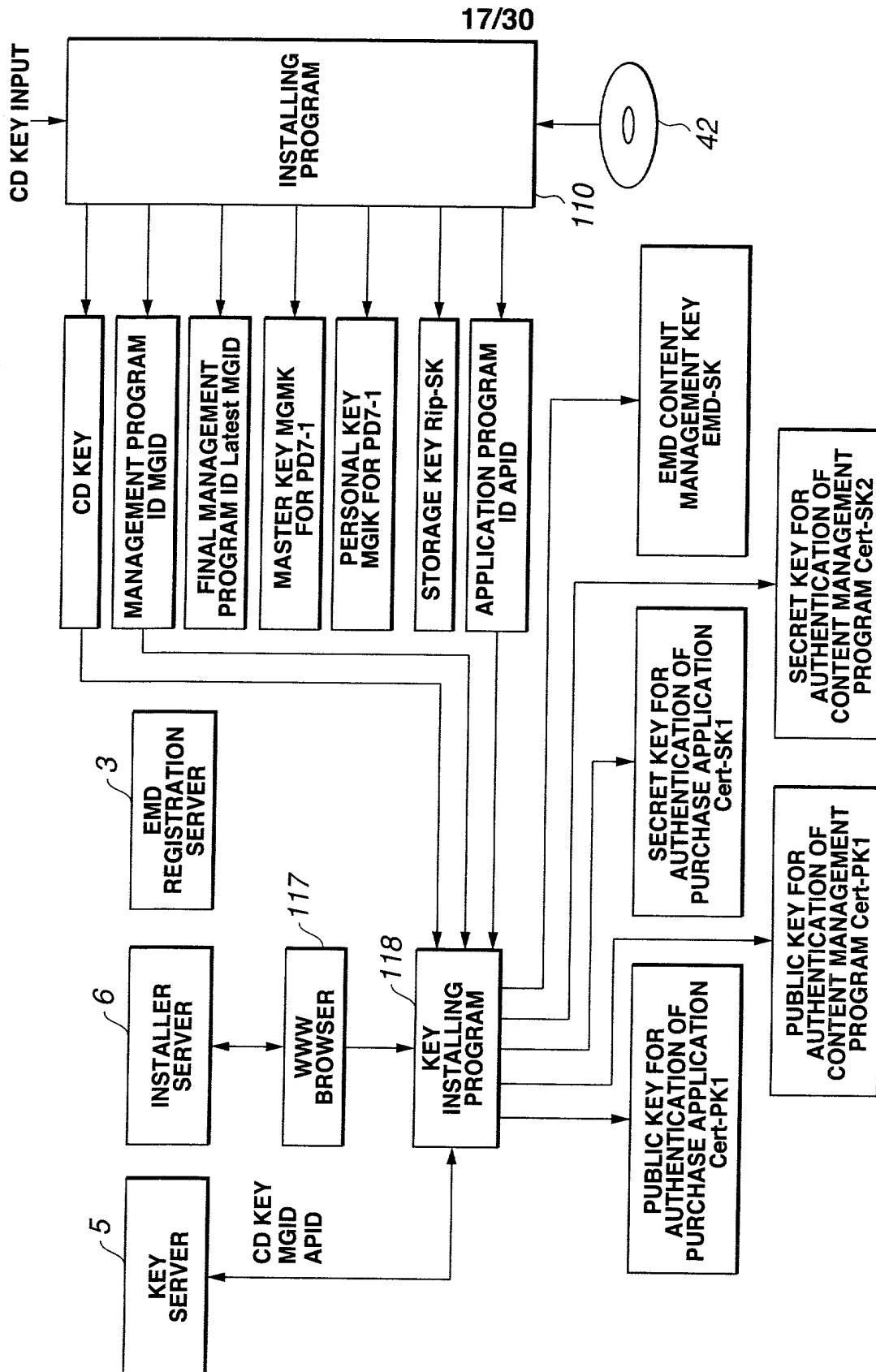


FIG.17

18/30

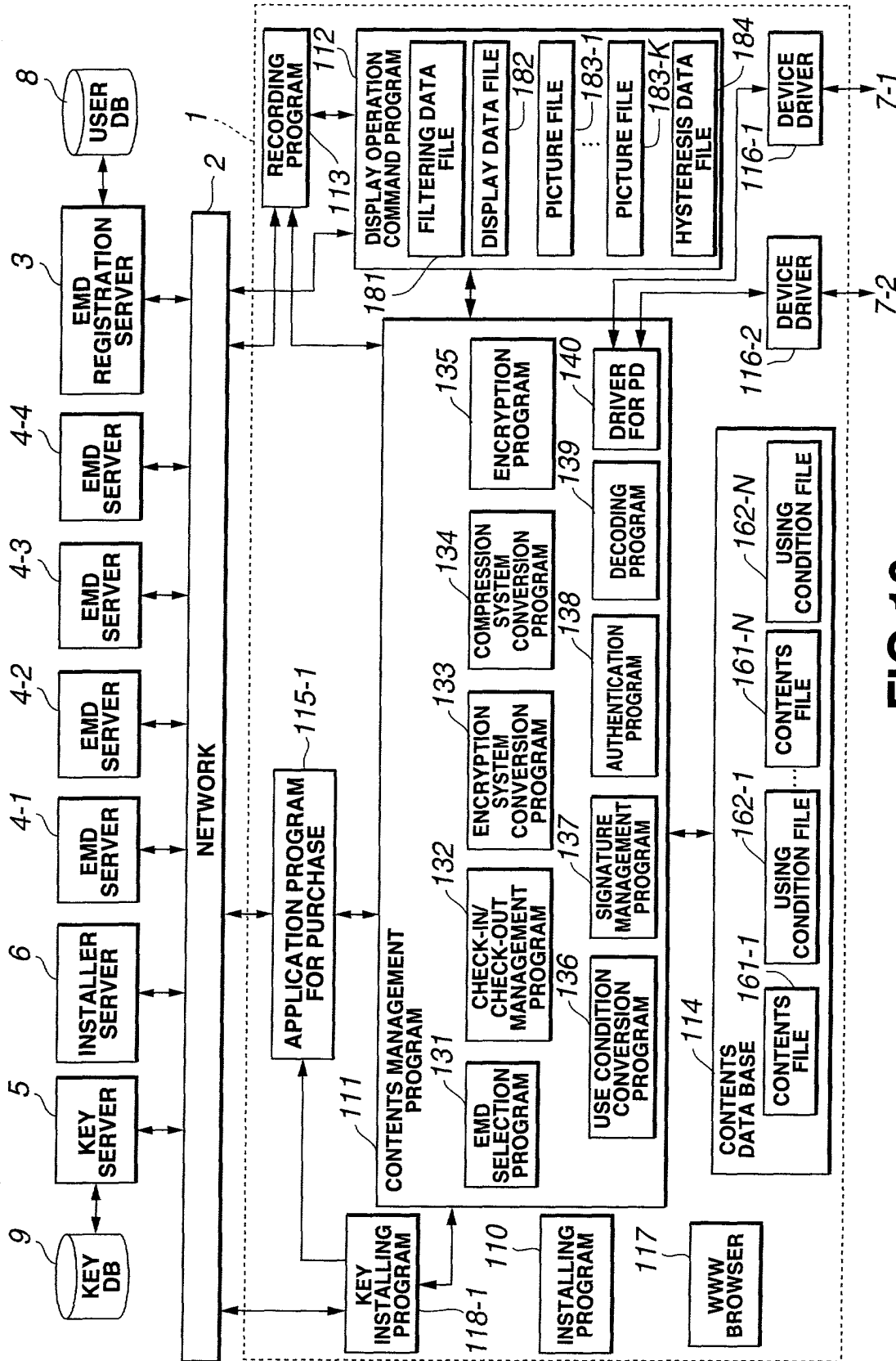


FIG. 18

19/30

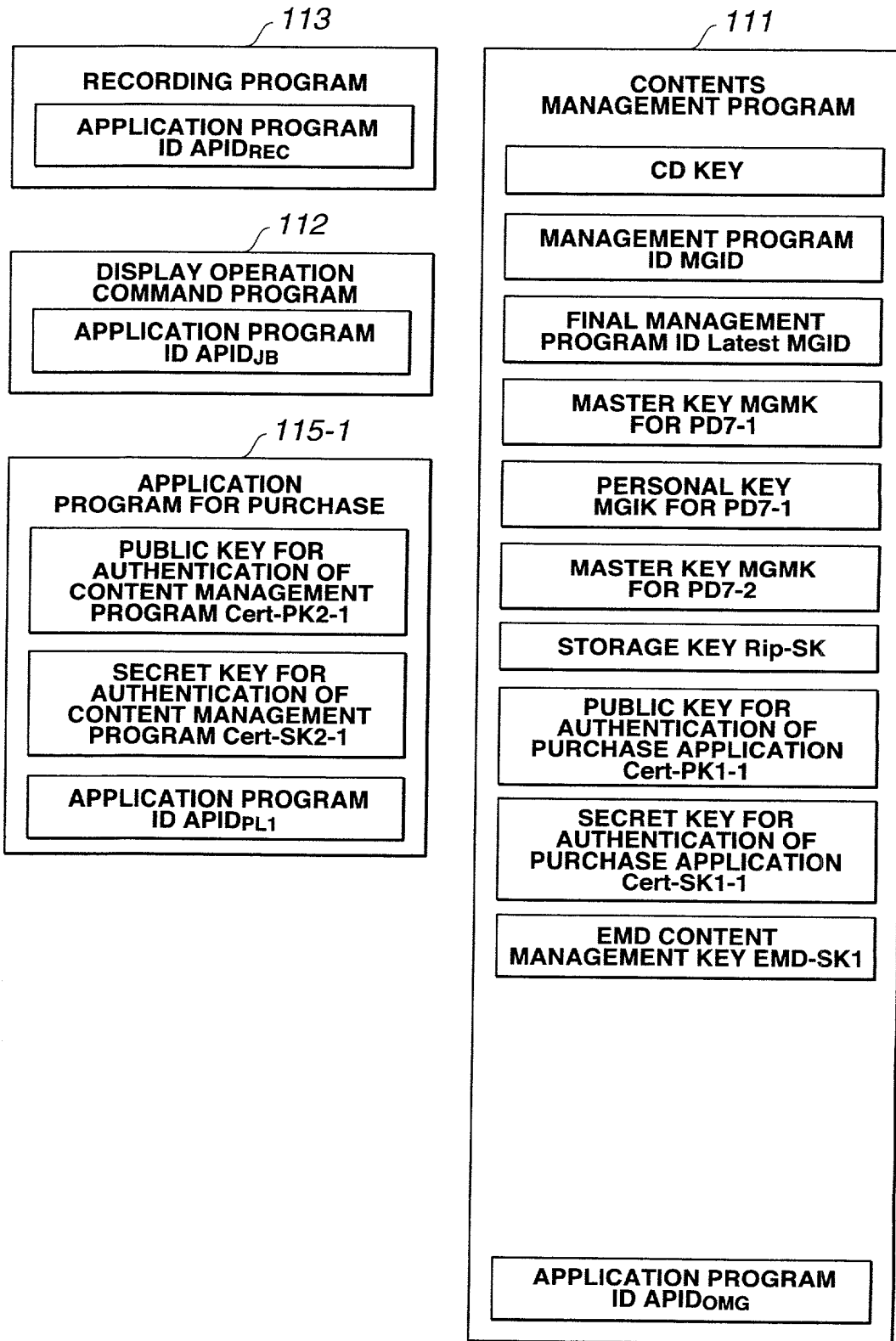


FIG.19

20/30

*First Name

*Last Name

*Address

*City

*State

*Zip Code

*Home Phone

*Email

Age (Optional)

How many people are in your household?(Optional)

Gender (Optional)

Occupation? (Optional)

Income (Optional)

Product purchase information

*Model Number

*Serial Number

The model number is printed on product packaging or instruction manual.

Would you like to receive important software upgrade information?

What company manufactures your computer?

What type of computer do you have?

Where did you purchase your Music Clip?

*Date Purchased

Children (Under 13):

Teens (Under 13-19):

Adults (Over 19):

Mail ☐ Female ☐

Click to Select

Yes ☐ No ☐

Notebook ☐ Desktop ☐ Both ☐

Best Buy

FIG.20

21/30

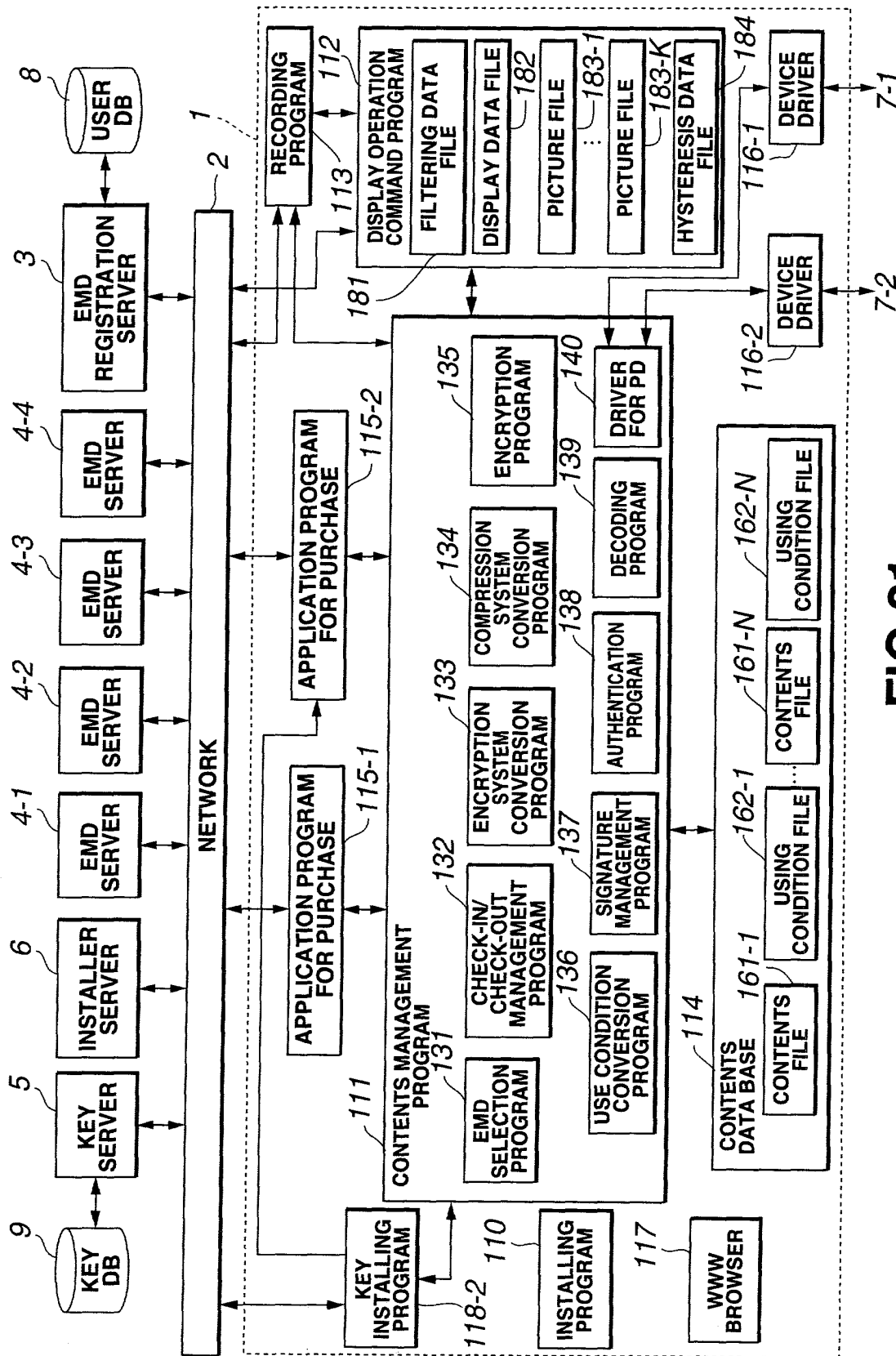


FIG. 21

22/30

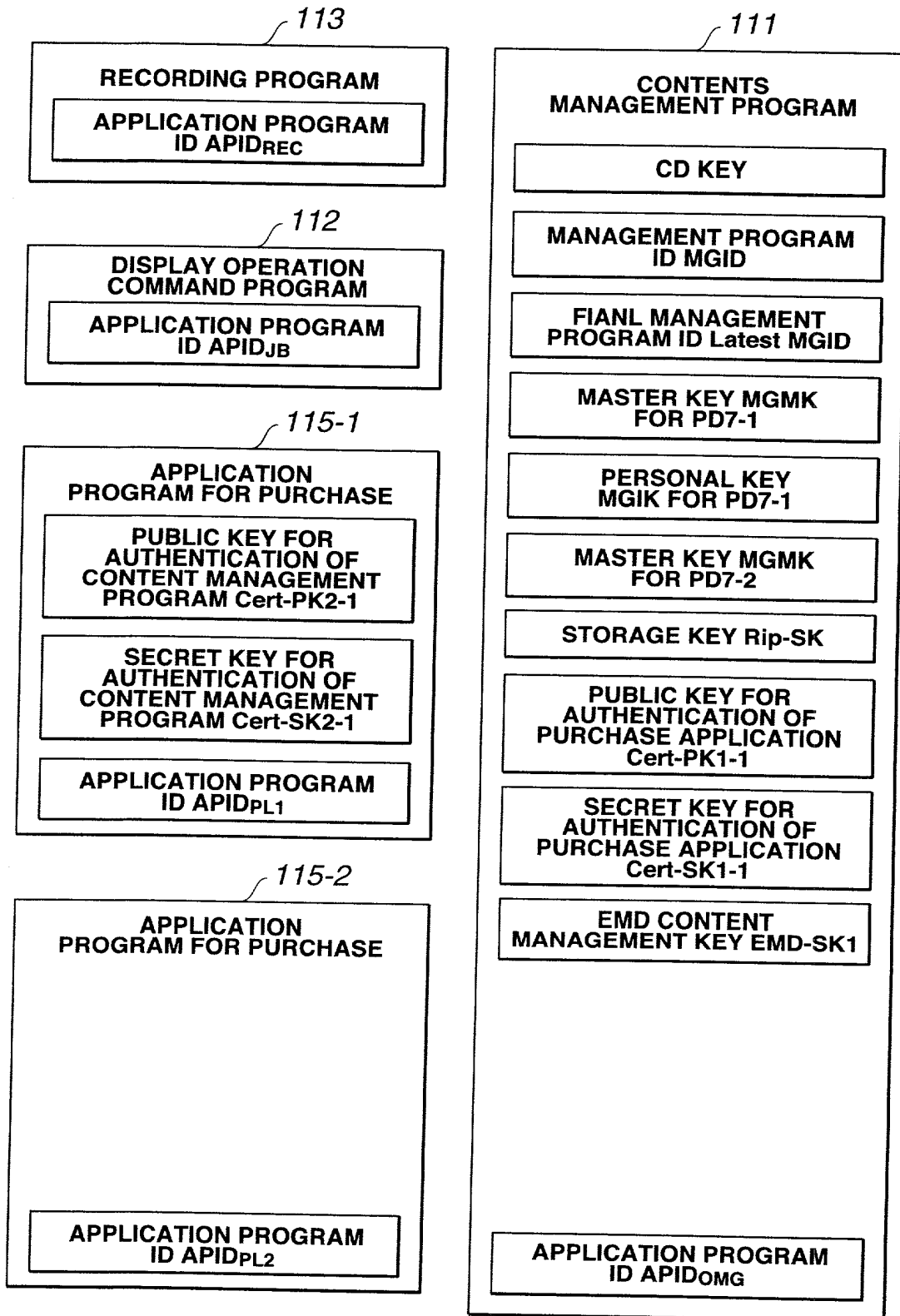


FIG.22

23/30

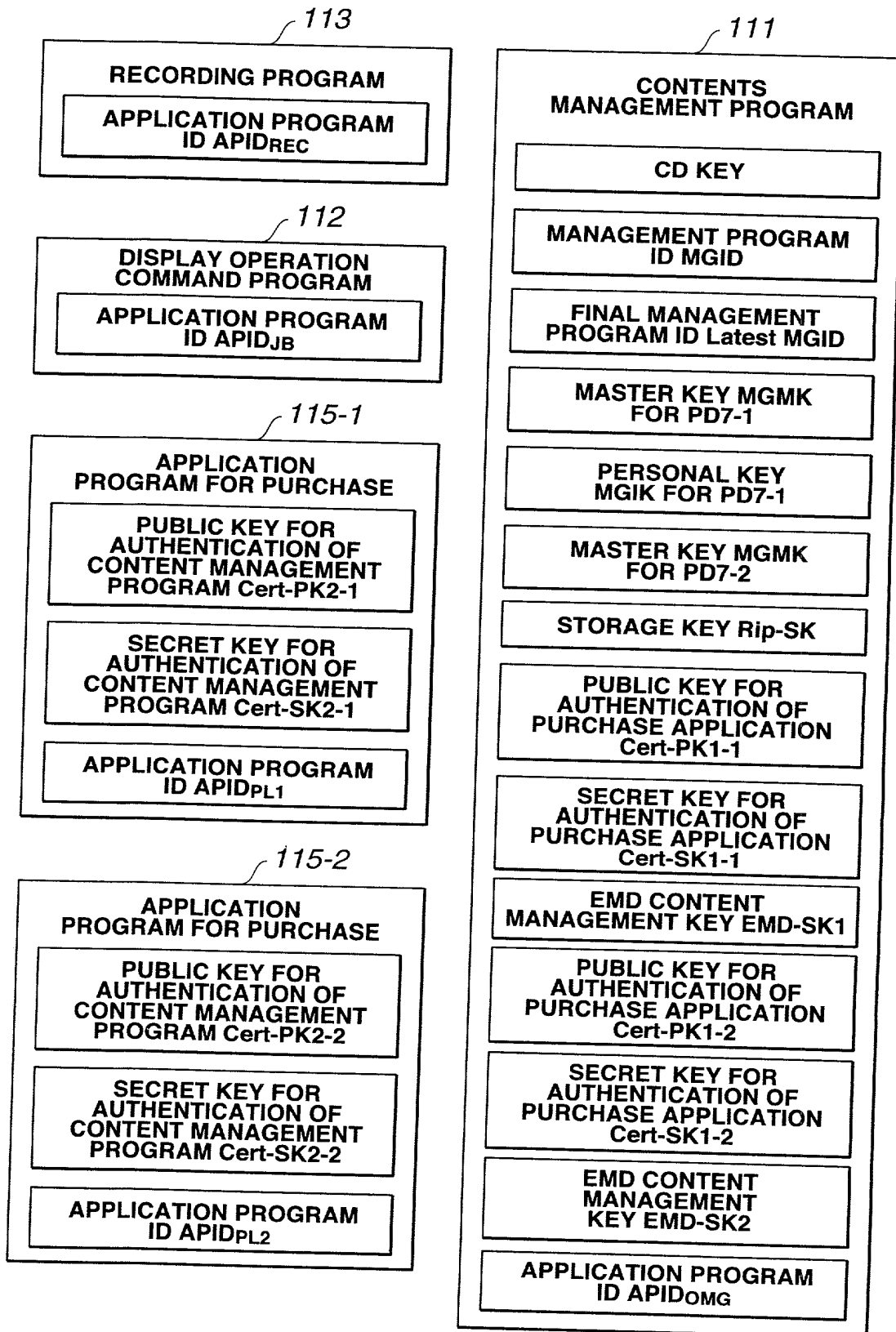


FIG.23

24/30

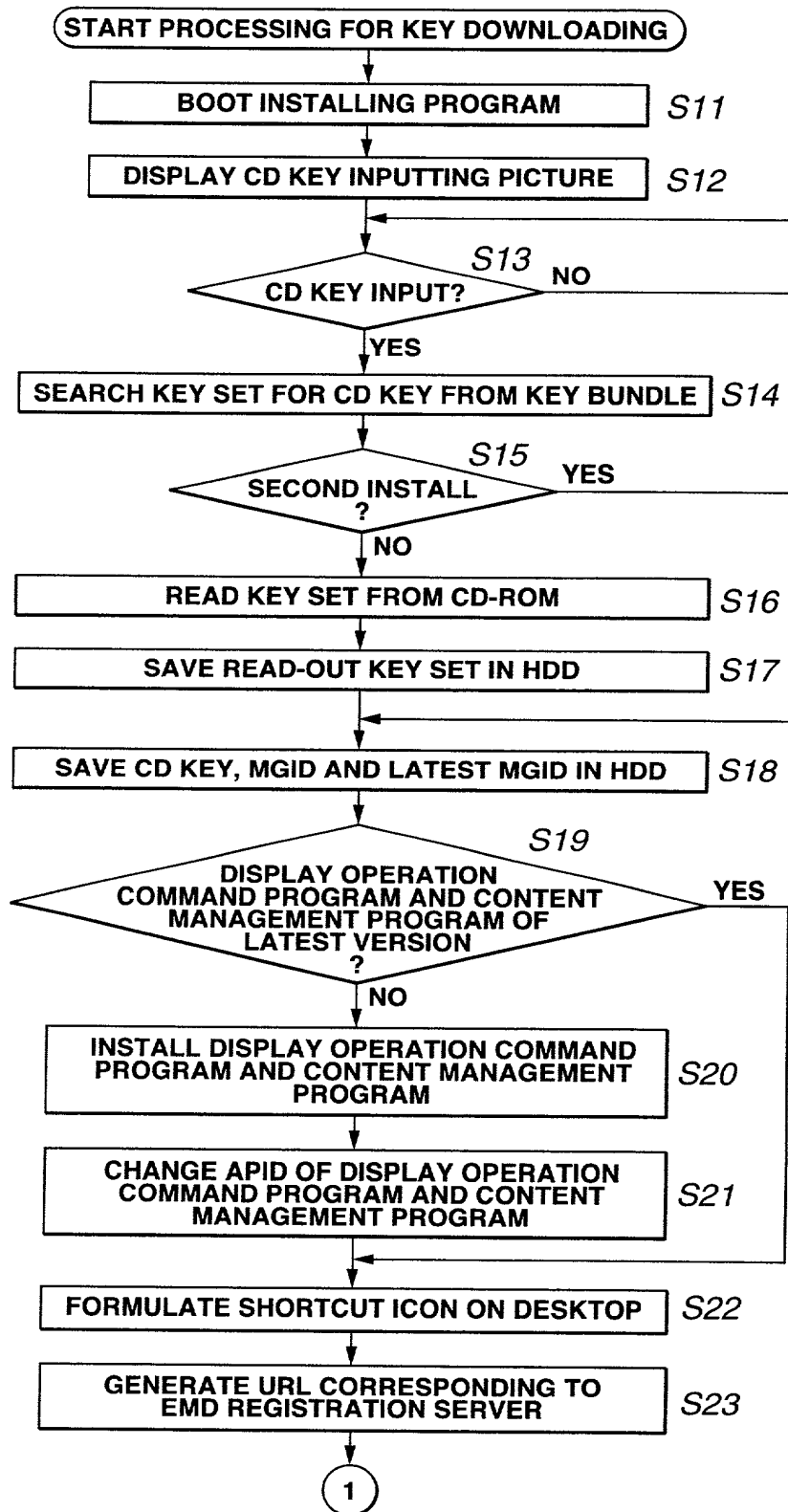


FIG.24

25/30

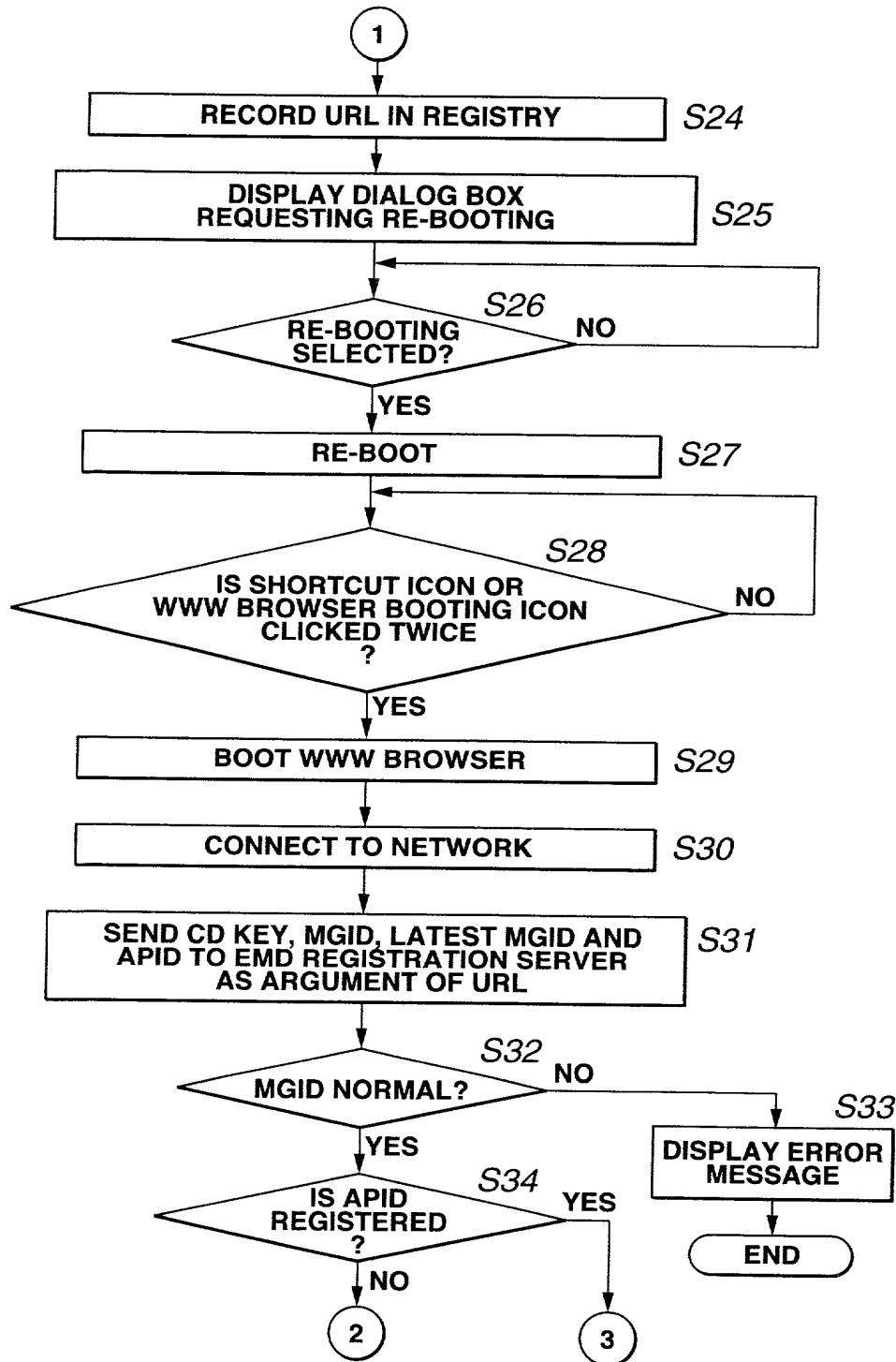
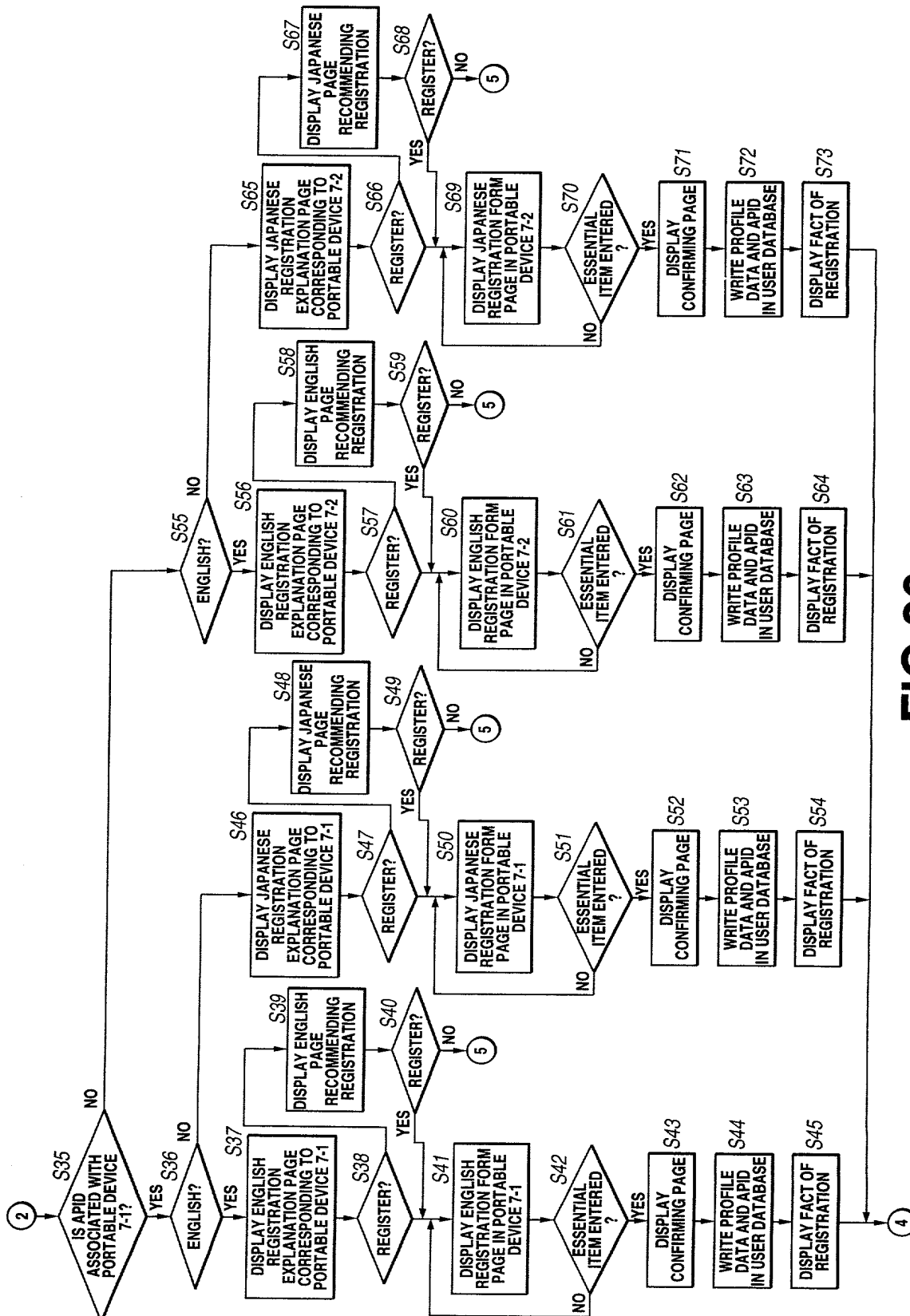


FIG.25



27/30

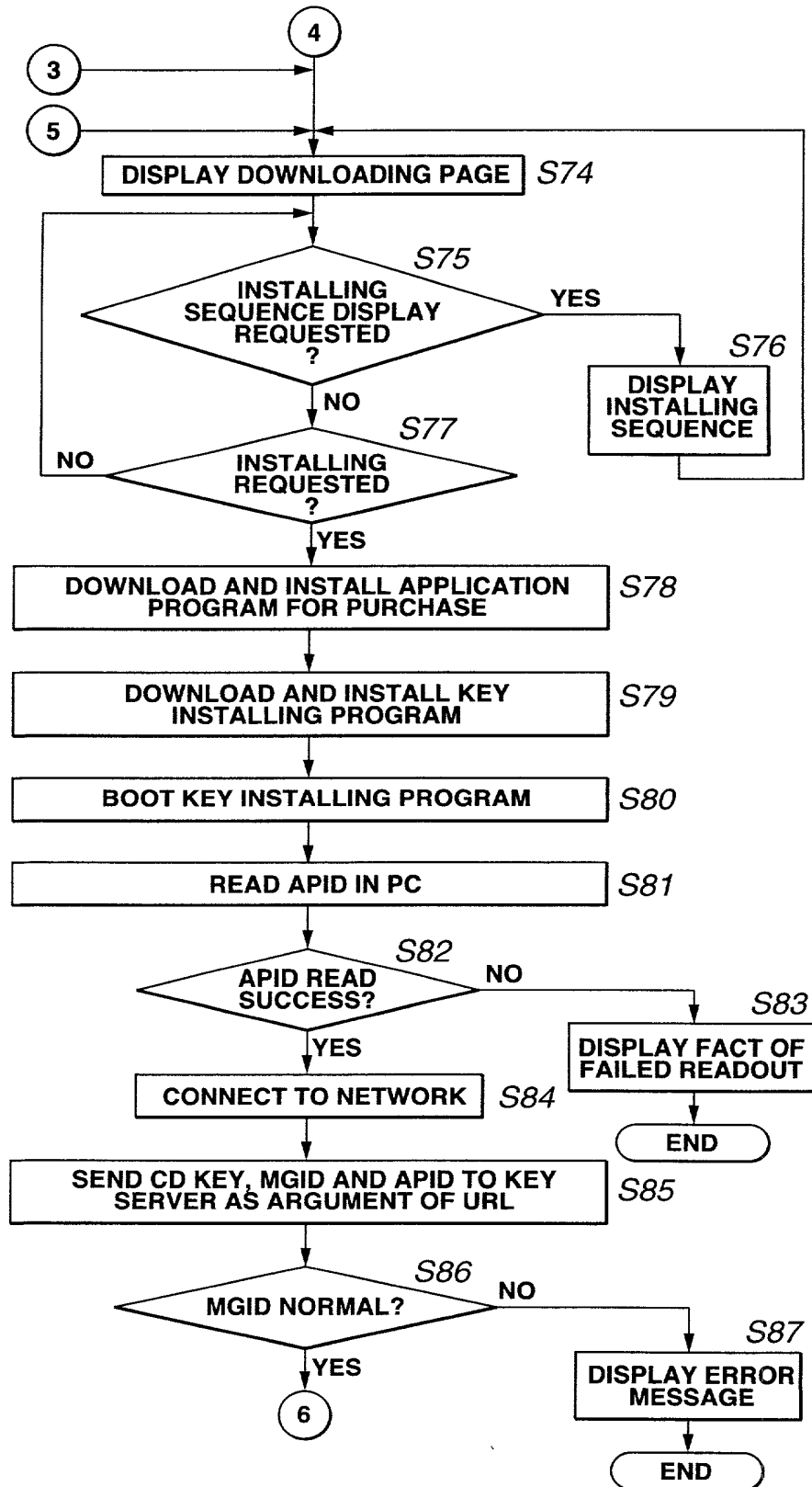


FIG.27

28/30

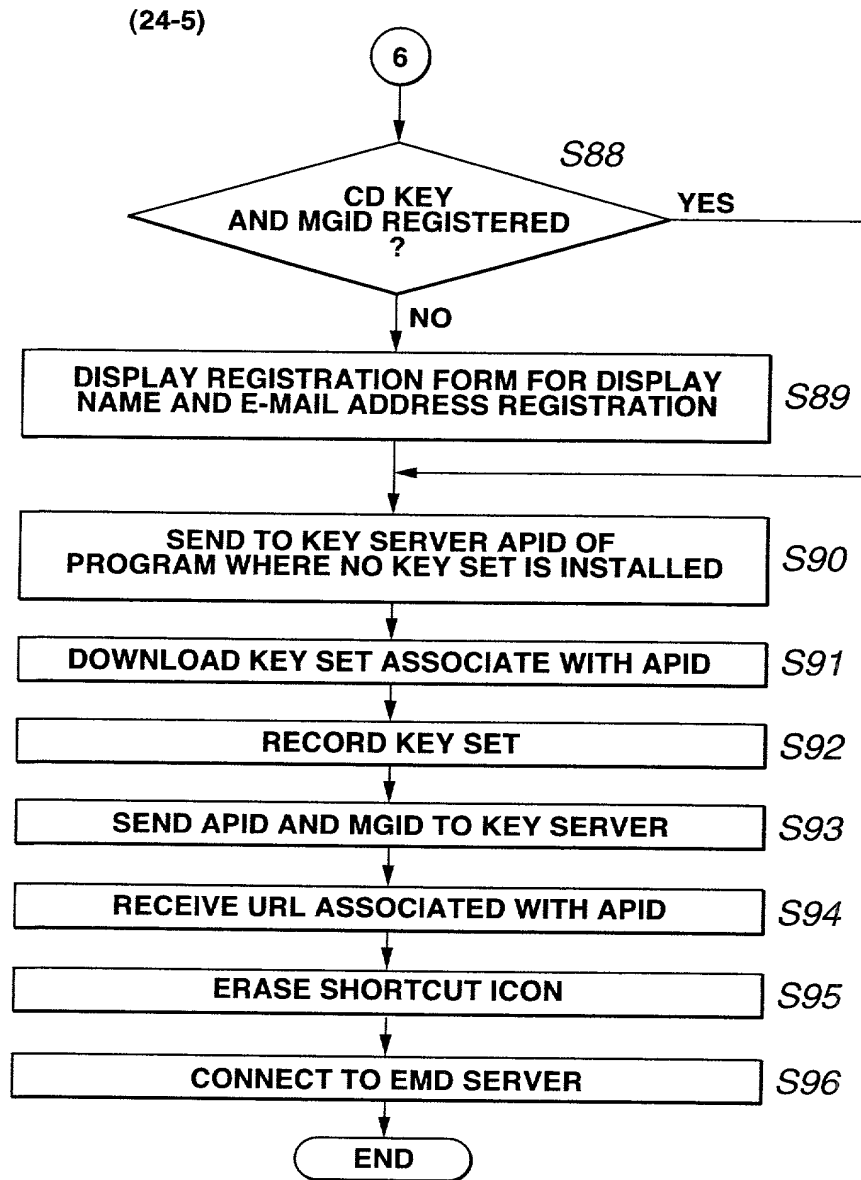


FIG.28

29/30

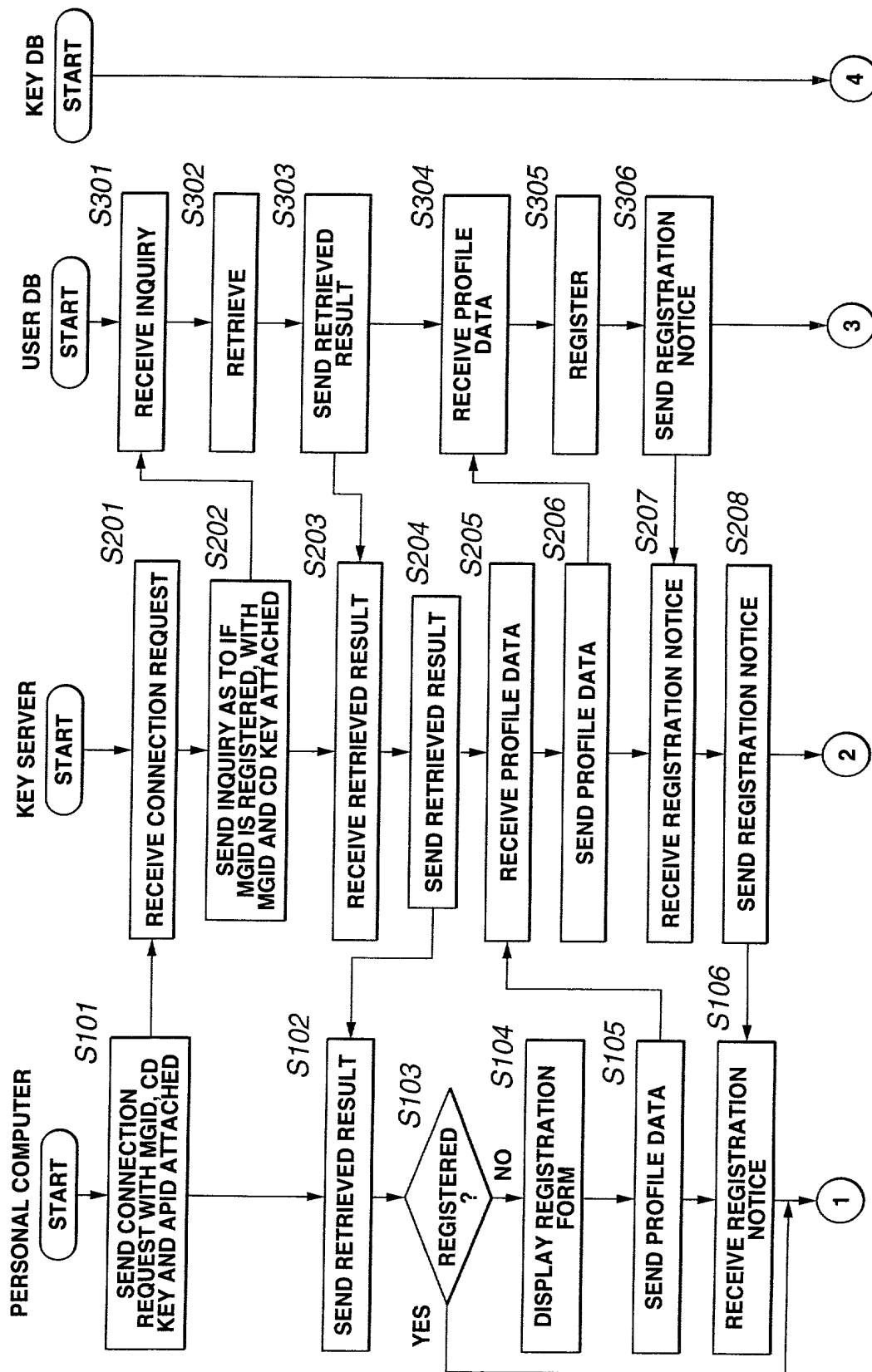


FIG.29

30/30

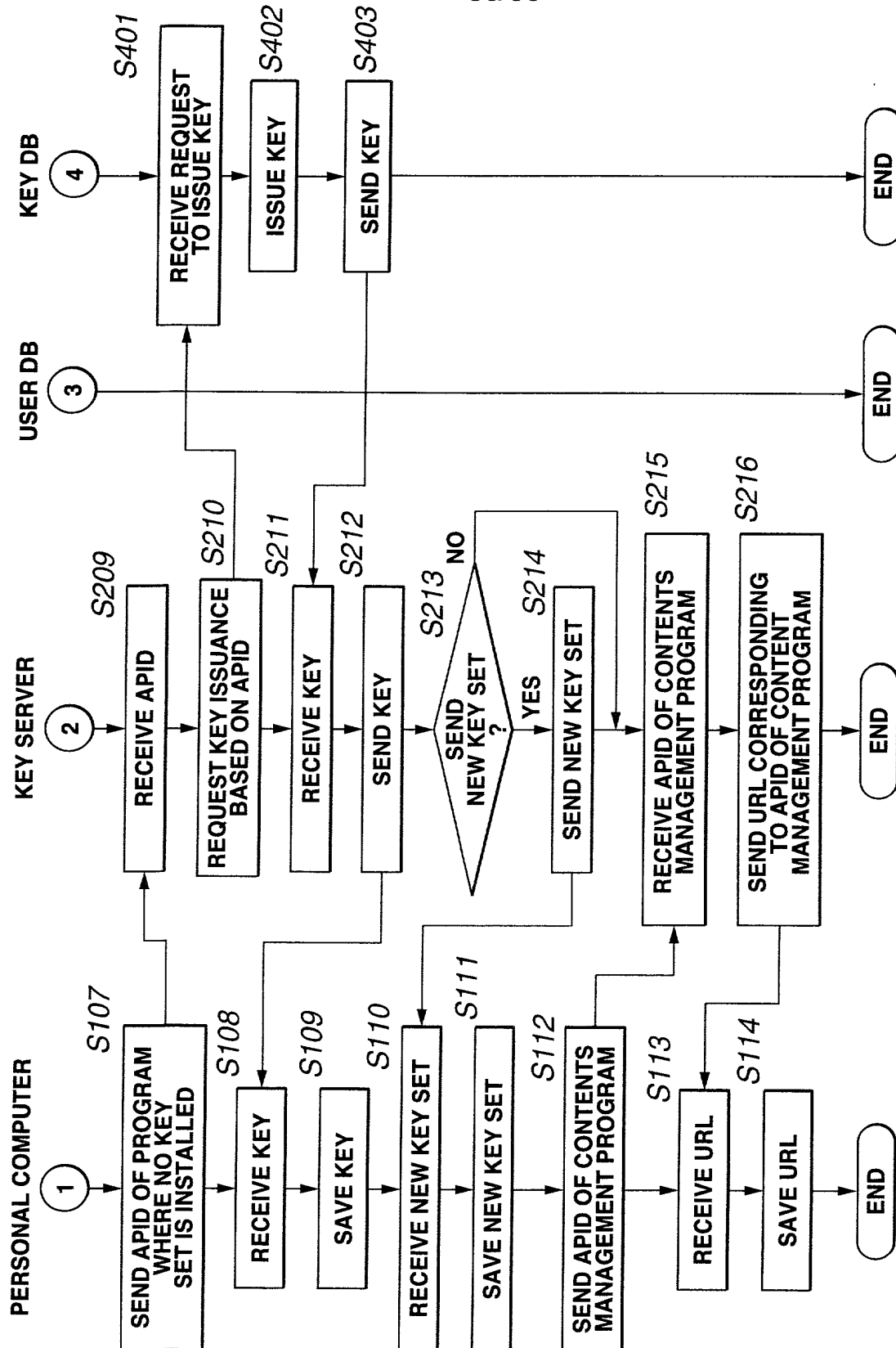


FIG.30

Declaration and Power of Attorney For Patent Application

特許出願宣言書及び委任状

Japanese Language Declaration

日本語宣言書

下記の氏名の発明者として、私は以下の通り宣言します。

私の住所、私書箱、国籍は下記の私の氏名の後に記載された通りです。

下記の名称の発明に関して請求範囲に記載され、特許出願している発明内容について、私が最初かつ唯一の発明者（下記の氏名が一つの場合）もしくは最初かつ共同発明者（下記の名称が複数の場合）であると信じています。

記発明の明細書は、

本書に添付されています。

____月____日に提出され、米国出願番号または特許協定条約国際出願番号を____とし、
(該当する場合) _____に訂正されました。

私は、特許請求範囲を含む上記訂正後の明細書を検討し、内容を理解していることをここに表明します。

私は、連邦規則法典第37編第1条56項に定義されるとおり、特許資格の有無について重要な情報を開示する義務があることを認めます。

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled. REGISTRATION METHOD AND APPARATUS, INFORMATION PROCESSING METHOD AND APPARATUS,

FURNISHING METHOD AND APPARATUS AND PROGRAM

STORAGE MEDIUM

the specification of which

☐ is attached hereto.

☒ was filed on December 5, 2000

as United States Application Number or

PCT International Application Number

PCT/JPO0/08609 and was amended under PCT

PCT Article 19 on May 21, 2001

(if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.

Japanese Language Declaration
(日本語宣言書)

500P/527US00

私は、米国法典第35編119条 (a) - (d) 項又は365条 (b) 項に基づき下記の、米国以外の国の少なくとも一カ国を指定している特許協力条約365 (a) 項に基づく国際出願、又は外国での特許出願もしくは発明者証の出願についての外国優先権をここに主張するとともに、優先権を主張している、本出願の前に出願された特許または発明者証の外国出願を以下に、枠内をマークすることで、示しています。

Prior Foreign Application(s)

外国での先行出願

| | |
|------------------|-------------------|
| P11-354465 | Japan |
| (Number) (番号) | (Country) (国名) |
| P11-354466 | Japan |
| (Number) (番号) | (Country) (国名) |
| P11-354467 | Japan |
| (Number) (番号) | (Country) (国名) |
| (Number) (番号) | (Country) (国名) |

私は、第35編米国法典119条 (e) 項に基づいて下記の米国特許出願規定に記載された権利をここに主張いたします。

| | |
|-----------------------------|------------------------|
| (Application No.) (出願番号) | (Filing Date) (出願日) |
|-----------------------------|------------------------|

私は、下記の米国法典第35編120条に基づいて下記の米国特許出願に記載された権利、又は米国を指定している特許協力条約365条 (c) に基づく権利をここに主張します。また、本出願の各請求範囲の内容が米国法典第35編112条第1項又は特許協力条約で規定された方法で先行する米国特許出願に開示されていない限り、その先行米国出願書提出日以降で本出願書の日本国内または特許協力条約国際提出日までの期間中に入手された、連邦規則法典第37編1条56項で定義された特許資格の有無に関する重要な情報について開示義務があることを認識しています。

| | |
|-----------------------------|------------------------|
| (Application No.) (出願番号) | (Filing Date) (出願日) |
|-----------------------------|------------------------|

私は、私自信の知識に基づいて本宣言書中で私が行なう表明が真実であり、かつ私の入手した情報と私の信じることに基づく表明が全て真実であると信じていること、さらに故意になされた虚偽の表明及びそれと同等の行為は米国法典第18編第1001条に基づき、罰金または拘禁、もしくはその両方により処罰されること、そしてそのような故意による虚偽の声明を行なえば、出願した、又は既に許可された特許の有効性が失われることを認識し、よってここに上記のごとく宣誓を致します。

I hereby claim foreign priority under Title 35, United States Code, Section 119 (a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or Section 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed.

Priority Claimed

優先権主張

| | | |
|-----------------------------------|-------------------------------------|--------------------------|
| 14 December 1999 | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| (Day/Month/Year Filed) (出願年月日) | Yes はい | No いいえ |
| 14 December 1999 | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| (Day/Month/Year Filed) (出願年月日) | Yes はい | No いいえ |
| 14 December 1999 | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| (Day/Month/Year Filed) (出願年月日) | Yes はい | No いいえ |
| (Day/Month/Year Filed) (出願年月日) | <input type="checkbox"/> | <input type="checkbox"/> |
| (Day/Month/Year Filed) (出願年月日) | Yes はい | No いいえ |

I hereby claim the benefit under Title 35, United States Code, Section 119(e) of any United States provisional application(s) listed below.

| | |
|-----------------------------|------------------------|
| (Application No.) (出願番号) | (Filing Date) (出願日) |
|-----------------------------|------------------------|

I hereby claim the benefit under Title 35, United States Code, Section 120 of any United States application(s), or Section 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of Title 35, United States Code Section 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of application.

| |
|---|
| (Status: Patented, Pending, Abandoned) (現況: 特許許可済、係属中、放棄済) |
|---|

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Japanese Language Declaration
(日本語宣言書)

委任状：私は下記の発明者として、本出願に関する一切の手続きを米特許商標局に対して遂行する弁理士または代理人として、下記の者を指名いたします。
(弁理士、または代理人の指名及び登録番号を明記のこと)

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith: (list name and registration number)

Norman F. Oblon, Reg. No. 24,618; Marvin J. Spivak, Reg. No. 24,913; C. Irvin McClelland, Reg. No. 21,124; Gregory J. Maier, Reg. No. 25,599; Arthur I. Neustadt, Reg. No. 24,854; Richard D. Kelly, Reg. No. 27,757; James D. Hamilton, Reg. No. 28,421; Eckhard H. Kuesters, Reg. No. 28,870; Robert T. Pous, Reg. No. 29,099; Charles L. Gholz, Reg. No. 26,395; William E. Beaumont, Reg. No. 30,996; Jean-Paul Lavalleye, Reg. No. 31,451; Stephen G. Baxter, Reg. No. 32,884; Richard L. Treanor, Reg. No. 36,379; Steven P. Weihrouch, Reg. No. 32,829; John T. Goolkasian, Reg. No. 26,142; Richard L. Chinn, Reg. No. 34,305; Steven E. Lipman, Reg. No. 30,011; Carl E. Schlier, Reg. No. 34,426; James J. Kulbaski, Reg. No. 34,648; Richard A. Neifeld, Reg. No. 35,299; J. Derek Mason, Reg. No. 35,270; Surinder Sachar, Reg. No. 34,423; Jeffrey B. McIntyre, Reg. No. 36,867; William T. Enos, Reg. No. 33,128; Michael E. McCabe, Jr., Reg. No. 37,182; Bradley D. Lytle, Reg. No. 40,073; and Michael R. Casey, Reg. No. 40,294, with full powers of substitution and revocation.

書類送付先

Send Correspondence to:

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
FOURTH FLOOR
1755 JEFFERSON DAVIS HIGHWAY
ARLINGTON, VIRGINIA 22202 U.S.A.

直接電話連絡先：(名前及び電話番号)

Direct Telephone Calls to: (name and telephone number)
(703) 413-3000

| | | |
|---------------------|---|---|
| 単独発明者または第一の共同発明者の氏名 | Full name of sole or first joint inventor Mitsuhiro NISHIBE | |
| 発明者の署名 | 日付 | Inventor's signature Mitsuhiro Nishibe |
| 住所 | | Date 5th July, '01 |
| 国籍 | | Residence Tokyo, Japan JPX |
| 郵便の宛先 | | Citizenship Japan |
| | | Post Office Address c/o Sony Corporation, 7-35, Kitashinagawa 6-chome, Shinagawa-ku, Tokyo 141-0001 Japan |
| 第二の共同発明者の氏名 | Full name of second joint inventor, if any Hirokazu TSUCHIYA | |
| 第二の共同発明者の署名 | 日付 | Second joint inventor's signature H. Tsuchiya |
| 住所 | | Date July 5, 2001 H.T. |
| 国籍 | | Residence Tokyo, Japan JPX |
| 郵便の宛先 | | Citizenship Japan |
| | | Post Office Address c/o Sony Corporation, 7-35, Kitashinagawa 6-chome, Shinagawa-ku, Tokyo 141-0001 Japan |

(第三以降の共同発明者についても同様に記載し、署名すること)

(Supply similar information and signature for third and subsequent joint inventors.)

Japanese Language Declaration
(日本語宣言書)

| | |
|-------------|---|
| 第三の共同発明者の氏名 | Full name of third joint inventor, if any Takuya KAJIKAWA |
| 第三の共同発明者の署名 | Third joint inventor's signature Takuya Kajikawa |
| 住所 | Residence Chiba, Japan JPY |
| 国籍 | Citizenship Japan |
| 郵便の宛先 | Post Office Address c/o Sony Corporation, 7-35, Kitashinagawa 6-chome, Shinagawa-ku, Tokyo 141-0001 Japan |

| | |
|-------------|---|
| 第四の共同発明者の氏名 | Full name of fourth joint inventor, if any Atsushi SAKAIDA |
| 第四の共同発明者の署名 | Fourth joint inventor's signature Atsushi SAKAIDA |
| 住所 | Residence Tokyo, Japan JPY |
| 国籍 | Citizenship Japan |
| 郵便の宛先 | Post Office Address c/o Sony Corporation, 7-35, Kitashinagawa 6-chome, Shinagawa-ku, Tokyo 141-0001 Japan |

| | |
|-------------|---|
| 第五の共同発明者の氏名 | Full name of fifth joint inventor, if any Minoru NAGATA |
| 第五の共同発明者の署名 | Fifth joint inventor's signature Minoru Nagata |
| 住所 | Residence Kanagawa, Japan JPY |
| 国籍 | Citizenship Japan |
| 郵便の宛先 | Post Office Address c/o Sony Corporation, 7-35, Kitashinagawa 6-chome, Shinagawa-ku, Tokyo 141-0001 Japan |

| | |
|-------------|---|
| 第六の共同発明者の氏名 | Full name of sixth joint inventor, if any Motohiro OHAMA |
| 第六の共同発明者の署名 | Sixth joint inventor's signature Motohiro Ohama |
| 住所 | Residence Kanagawa, Japan JPY |
| 国籍 | Citizenship Japan |
| 郵便の宛先 | Post Office Address c/o Sony Corporation, 7-35, Kitashinagawa 6-chome, Shinagawa-ku, Tokyo 141-0001 Japan |

Japanese Language Declaration
(日本語宣言書)

| | |
|----------------|---|
| 第七の共同発明者の氏名 | Full name of seventh joint inventor, if any Yoshimichi KITAYA |
| 第七の共同発明者の署名 日付 | Seventh joint inventor's signature Date Yoshimichi Kitaya July 31, 2001 |
| 住所 | Residence Kanagawa, Japan JPY |
| 国籍 | Citizenship Japan |
| 郵便の宛先 | Post Office Address c/o Sony Corporation, 7-35, Kitashinagawa 6-chome, Shinagawa-ku, Tokyo 141-0001 Japan |

| | |
|----------------|---|
| 第八の共同発明者の氏名 | Full name of eighth joint inventor, if any Yoshihiro TAMURA |
| 第八の共同発明者の署名 日付 | Eighth joint inventor's signature Date Yoshihiro Tamura 2nd Aug, 01 |
| 住所 | Residence Kanagawa, Japan JPY |
| 国籍 | Citizenship Japan |
| 郵便の宛先 | Post Office Address c/o Sony Corporation, 7-35, Kitashinagawa 6-chome, Shinagawa-ku, Tokyo 141-0001 Japan |

| | |
|----------------|---|
| 第九の共同発明者の氏名 | Full name of ninth joint inventor, if any |
| 第九の共同発明者の署名 日付 | Ninth joint inventor's signature Date |
| 住所 | Residence |
| 国籍 | Citizenship |
| 郵便の宛先 | Post Office Address |

| | |
|----------------|---|
| 第十の共同発明者の氏名 | Full name of tenth joint inventor, if any |
| 第十の共同発明者の署名 日付 | Tenth joint inventor's signature Date |
| 住所 | Residence |
| 国籍 | Citizenship |
| 郵便の宛先 | Post Office Address |